Rising to the challenge of out-of-stocks

OVERVIEW

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Retailers have been struggling with out-of-stocks for decades – with little evidence of improvement. Just what causes the problem? How big is it? And could we, at last, be able to tackle it?

If you believe, with all the hype around ECR and the brave new world of technologies, that retail OOS have gone down in the past 20 years, you are wrong. And if you believe shoppers are still willing to accept low service levels, you are wrong again.

Increasingly, they switch brands when they don't find what they are looking for. But retailers be wary. Many shoppers switch shops quickly and may never come back.

So, who is to blame? The supply chain. And where to tackle it? On the shop floor.

An overview of OOSs in the fast moving consumer goods (FMCG) industry

Retailing demands extraordinary commitment to detail, and presents managers with multiple challenges which simultaneously beg for attention.

Availability is one of those challenges. As the number of SKUs in the average grocery store increases (according to the Food Marketing Institute web site, in 2001 the number was nearly 25,000), and retail competition intensifies, especially in crowded metropolitan areas, the challenge of availability gets both harder

ILLUSTRATION BY CHRISTOPH FISCHER

and more important.

Since the first formal studies were reported in the 1960s, OOS has been shown to be a continuous problem for retailers, distributors and manufacturers in the FMCG industry. Recent advances in Efficient Consumer Response (ECR), category management and supply chain management initiatives, as well as investments in inventory tracking technology have not, by and large, reduced the overall level of OOSs on store shelves from what was reported in previous studies.

OOS rates vary greatly among retailers and their outlets depending on a variety of factors, but the majority tends to fall in the range of five to 10 per cent. More importantly, in studies that examine faster-selling and/or promoted products, the rate regularly exceeds 10 per cent. The average OOS rate in our study, worldwide, is 8.3 per cent and is illustrated on Exhibit 1.

Our analysis of 52 OOS studies worldwide (see box) shows that, broadly speaking, 70 to 75 per cent of OOSs are a direct result of retail store ordering and forecasting practices (either underestimating demand or having ordering processes/cycles that are too lengthy), and shelf re-stocking practices (the product is in the store but not on the shelf).

When we divide the responsibility for OOS into its major components, we get the following approximate general groupings:

- retail store ordering and forecasting causes (about 50 per cent of OOS)
- retail store shelving and replenishment practices (about 25 per cent of OOS)
- combined upstream causes, ie, category planning or upstream replenishment (about 25 per cent of OOS).

Relative to previous reports, our data of more than 71,000 consumers surveyed show an increasing willingness of customers – when confronted with an OOS situation – to seek those items at an alternative outlet.

Depending on the product category, when confronted with an OOS situation, 21 to 43 per cent of consumers will make that purchase at another store, and another seven to 25 per cent will not buy the item at all.

The studies suggest that retailers are likely to lose almost one-half of the intended purchases when a consumer is confronted with an OOS situation. This loss does not include the impact of substituting, which is generally towards a cheaper substitute.

The cost of OOS to the retailers is substantial. Our findings show that a typical retailer loses up to four per cent of sales due to having items OOS, which translates into an earnings per share loss up to $0.012 (1.2 cents) for the average firm in the grocery retailing sector –

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Three-quarters of out-of-stocks are caused by retailer store ordering and forcasting practices, or by shelf re-stocking practices

where the average earnings per share is about $0.25 (25 cents) per year.

Let's investigate the study further to learn more about this worldwide issue.

Extent of OOS

The average OOS rate worldwide we found after examining 40 studies was 8.3 per cent. While this is the average, the extent reported in each study varied not only by differing management practices, but also by what is measured.

The exact definition of an OOS affects the precise measure – most recent studies tend to settle on a consumer-based definition. Even using this consumer perspective, however, different methods of measurement generate two general alternative definitions of OOS.

The first and most widely used definition of OOS is the percentage of SKUs that are OOS on the retail store shelf at a particular moment in time (ie, the consumer expects to find the item but it is not available).

In general, studies using this approach begin with the selection of one or more categories to examine. Next, a sample of stores from a single retail chain is selected and a series of physical audits is conducted at the retailer at specific times during the day over a specified period of time. For each category, the OOS rate is calculated as the average per cent of the SKUs not in stock at the time of the audits.

Evidence round-up

This paper is based on the Gruen, Corsten and Bharawaj (2002) GMA report and presents what we believe is the largest and most current single compilation of findings regarding the extent, causes, and consumer responses to retail out-of-stock (OOS) situations in the FMCG industry. To our knowledge, this is the first study which enumerates OOS on a worldwide basis.

The inputs for this report come from 52 studies which examine OOS. This includes previously published results of 16 industry and academic studies as well as the results from an additional 36 studies, proprietary to this report. To provide a sense of the extensiveness of the studies that were used to develop this report, consider the following:

- number of retail outlets examined: 661
- number of FMCG categories included: 32
- number of consumers surveyed worldwide: 71,000
- number of countries represented: 29
- studies addressing extent of OOS: 40 (of 52 total studies)
- studies addressing the root causes of OOS: 20 (of 52 total studies)
- studies addressing the consumer responses to OOS: 15 (of 52 total studies).

The cost of OOS to the retailers is substantial. Our findings show that a typical retailer loses about four per cent of sales due to having items OOS

Technology and better signalling

Technology appears to provide promising ways to address OOS issues. The goal – to be able to move quickly and as much in advance as possible, and to provide a signal to the retail manager that an OOS exists or may soon exist.

This then makes other efforts to solve OOS issues more productive. For example, safety stocks can be pinpointed to support those items most likely to be OOS on the shelf. Thus, safety stocks become part of the supply chain flow rather than inventory that is being held by the retailer.

Second, manpower can be directed efficiently to filling in known or likely OOS, rather than directed in a "hit or miss" approach across the thousands of SKUs carried at the retailer.

We are aware of three models which address OOS and have been publicly reported.

The first is a system built by, and proprietary to, Sainsbury's (UK) titled Shelf Availability Monitor (SAM). A published Sainsbury's report states that SAM tracks the transaction data for the store's top 2,000 products and can be used to flag items which may be OOS.

The second is a solution called "e-replenishment" which was developed jointly by IBM and IMI, a supply chain management vendor, and tested in France. It was unveiled at the National Retail Federation's annual convention in 2000.

The system uses real-time point-of-sale consumer sales data to drive overnight replenishment through the supply chain. However, it depends on inventory record accuracy that is not always necessarily complete.

The third is a solution developed by Data Ventures and Procter & Gamble. The Item Velocity Monitor predicts with 90 per cent accuracy the OOS status for items that move four or more times per day. This can provide a real-time signal to store managers and does not depend on store inventory records.

These new solutions all share the ability to utilise technology – as opposed to inventory or manpower – to address OOS items on a rapid basis. This provides the potential benefits of reduced OOS levels without committing high-cost labour to address the problem. Furthermore, such solutions also help to link shelf OOS information to supply chain partners.

Generally, the OOS rate is reported for each category individually and then categories are averaged (normally unweighted average) to create and report an overall rate for the study.

Due to the number of studies that have used this approach, a major advantage of using this method is the availability of excellent baselines. The limitations to this type of measurement include the arbitrary nature of selection of the categories, frequency and timing of the audits, duration of the study, and human error that can and does enter from many sources.

A second and alternative consumer-based definition of an OOS is the number of times a customer looks for the SKU and does not find it. The percentage rate is calculated as the number of times the consumer does not find the SKU divided into the sum of the times the consumer does find the SKU, plus the number of times the consumer does not find it.

Instead of relying on physical audits, the second approach is measured through the use of models which determine OOS rates from store scanner and inventory data. This view provides the advantage of determining the extent of OOSs that actually matter to the retailer and the upstream supply chain members.

The major limitation of this method is that the OOS rates are estimates based on historical sales patterns, and thus can only be calculated for SKUs that sell with

a minimum frequency (thus cannot detect OOS for very slow-moving products).

Only a few trials in the US and France that have used this method have been reported and thus baselines do not readily exist. The call out box describes these in more detail.

The average OOS rate for all 40 studies that reliably reported OOS extent was 8.3 per cent. The average of the reported highs in the studies was 12.3 per cent, and the average of the lows was 4.9 per cent.

This is similar to, although slightly higher than, the primary US benchmark developed in the 1996 Coca-Cola Research Council-sponsored study. That figure was 8.2 per cent, was calculated as the simple average rate of eight categories ranging from 3.9 per cent to 11.1 per cent. However, it falls within the range of two other recent studies.

A 2002 GMA study on direct-store-delivery in the US reported an OOS rate of 7.4 per cent with categories ranging from 3.2 per cent to 11.2 per cent.

ECR Europe's ongoing on-shelf-availability study reported an OOS rate of seven to 10 per cent with categories ranging from five per cent for canned food to 18 per cent for fresh meals, and even 32 per cent for women's stockings.

Keep in mind that the 40 studies examined here used slightly different measurement methods, different people, measured different categories, and examined different durations and different daily and weekly factors.

All of these can affect the measurement of OOS rates. However, when all these factors are considered together, the averages regress to an uncanny similarity. This provides a sense that the findings are reliable in the aggregate, and that differences can easily be explained by differing categories, methods and regions.

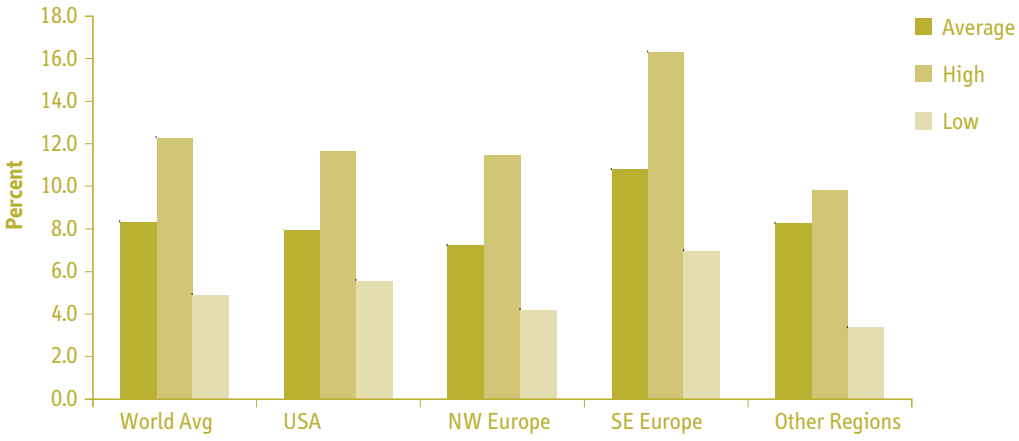
When we split Europe into its northern and western region (Norway, Denmark, Sweden, France, Belgium, the Netherlands, Germany, Switzerland, Austria, the United Kingdom and Finland) and into its southern and eastern region (Portugal, Spain, Greece, Poland, Hungary, the Czech Republic, Slovakia) we found that countries within each of these two areas showed similarities in OOS rates, but differences between the two regions were substantial.

North-west Europe showed the lowest OOS rates of any region in the world, while south-east Europe showed the highest.

OOS rates in "other regions" (South America and Asia) were lower on average although details varied. The small number of studies does not provide a complete representation of these regions.

Regarding promotional effects, the studies consistently show OOS rates to be higher on promoted items than on non-promoted items. In some cases the

Exhibit 1: OOS rates in different regions



differences are minor, but in most the difference is substantial – even though promoted items should be receiving retail store managers' attention.

While the differences vary among studies, in general, we found a 2:1 ratio of promoted versus non-promoted OOS rates. Examples of this in publicly reported studies include the ECR France study (where promoted items have 75 per cent greater OOS rates); the 1996 Coca Cola US study (where OOS levels of promoted items were approximately double of non-promoted items); and the 2002 GMA study (where OOS levels of promoted items were approximately double of non-promoted items).

Several of the proprietary studies we examined found similar results. However, as the case of a German retailer shows, there are even times occasionally when promoted items can have lower OOS rates!

While our research did not specifically examine new products, in some of the studies we reviewed we did find challenges in keeping new products in stock (see the box on the previous page).

Furthermore, while we assumed that more SKUs lead to higher OOSs we found that the suppliers that suffer most from are stuck-in-the-middle neither supplying many nor few SKU!

OOS and assortment

Contrary to our expectations that OOSs

OOS and new products

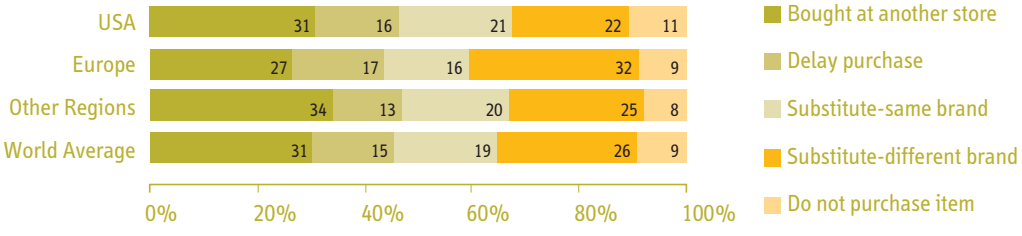
OOS are particularly difficult to manage for new products. At one retailer in the Belgium and Netherlands region we found up to three per cent of turnover for new products was foregone due to problems during launch phase.

Assigning the right amount of facings and shelf-space was particularly difficult. Often headquarters would allocate the wrong initial quantity for pipeline filling or staff would not receive enough information about the products to properly assess their sales potential. When launched, promotion activities and advertising were not synchronised, and consumers found it hard to find new items on shelf.

Furthermore, OOS were caused due to improper backroom organisation, delivery windows not adapted to daily peak trade-offs, and long lead times from backroom to shelf. These problems were exacerbated by large differences in staff capabilities and responsibilities.

To fix the OOS, the retailer introduced special new product codes which would create demand in store prior to product launches and reworked the allocation for better pipeline filling. Ordering of non-promotion products was changed to a POS-based ordering system. Finally, restocking and reordering schedules were reworked to create flow on the shelf, and staff training was intensified

Exhibit 2: **Average consumer responses by region (comparisons across eight common categories)**



increase with the number of SKUs within an assortment, at one Spanish Hypermarket chain we did not detect a linear relationship between SKUs and OOSs. Rather, suppliers with lower-than-average SKUs in the assortment had lowest shelf-availability levels. Second in the list was those with the highest number of SKUs – the middle did best.

These different rates had different causes. Where SKU numbers were low, there was less follow-up by the supplier. Where SKU numbers were high, OOS were caused by insufficient shelf space, particularly for new categories.

In addition, brands with lower average off-take, poor customer image and little changes on their offer to consumers had the highest shelf-availability levels.

We also realised that bulk sizes benefit from higher availability, which led to higher availability for end-of-aisle compared with shelf promotions. No relationship was found between supplier to DC service levels and shelf availability, nor between the suppliers' shelf availability levels and their respective delivery lead-time and/or replenishment mode – a slap in the face to some recent supply chain initiatives.

In response, the retailer optimised primarily the backroom-to-shelf replenishment process, improved planogram design and adherence, organised for better inventory record

OOS and promotions

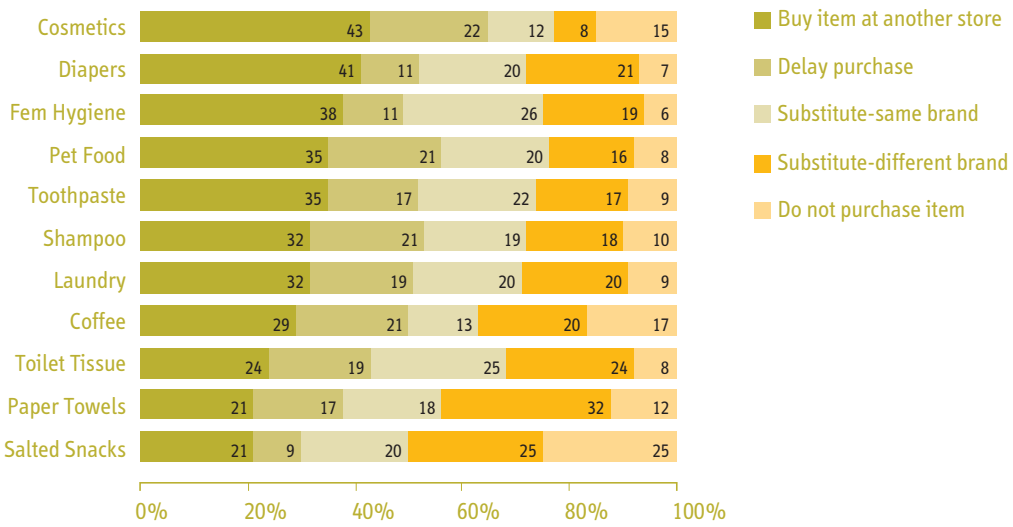
The received view is that OOSs are higher on promotions. However, in one particular hypermarket chain in Germany we found OOSs were lower for advertised products than for non-advertised goods. When we dug deeper into the data we found this was true primarily for end-of-aisle promotions where products were stacked on pallets and staff could easily monitor availability visually.

Maintaining high levels of availability was much harder for on-shelf promotions.

In addition, since delivery schedules were not synchronised with the nightly shelf-replenishment service, daily replenishment activities had to be increased, which interfered with the customers' shopping routines.

Finally, OOSs were not always detected because although shelves were empty, significant book-stocks were reported. In response, the retailer implemented merchandisable units, POS-based ordering and is directing further efforts towards inventory accuracy and improved shelf tags.

Exhibit 3: **Consumer responses across 11 categories (USA)**



accuracy and enforced master data alignment and integration throughout the total supply chain.

Consumer responses to OOS situations

Academic research has identified and categorised up to 15 possible consumer responses to an OOS, although typically, managerial researchers measure five primary responses.

All five result in direct and/or indirect losses to both retailers and manufacturers. These are:

- buy item at another store (store switch)
- delay purchase (buy later at the same store)
- substitute same brand (for a different size or type)
- substitute-different brand (brand switch)
- do not purchase the item (lost sale).

We also looked at a worldwide study of more than 71,000 consumers which was conducted in a series of 29 studies across 20 countries. A variety of categories was examined in each of the countries.

The results of this analysis are presented in the comparative bar chart below (Exhibit 2).

In the aggregate, delay of purchase and not purchasing at all are reasonably similar worldwide. The major overall difference between US and European consumers is the lower willingness of US consumers to switch brands. European consumers are almost 50 per cent more likely to switch to a competing brand when faced with an OOS on the desired item. Alternatively, US consumers are more likely to substitute a different package size or variation within their preferred brand.

Thus, in the aggregate, US consumers act in a more brand-loyal manner than consumers outside the US. Store switching is greatest outside the US and Europe. Europeans are the least likely to switch stores due to OOS.

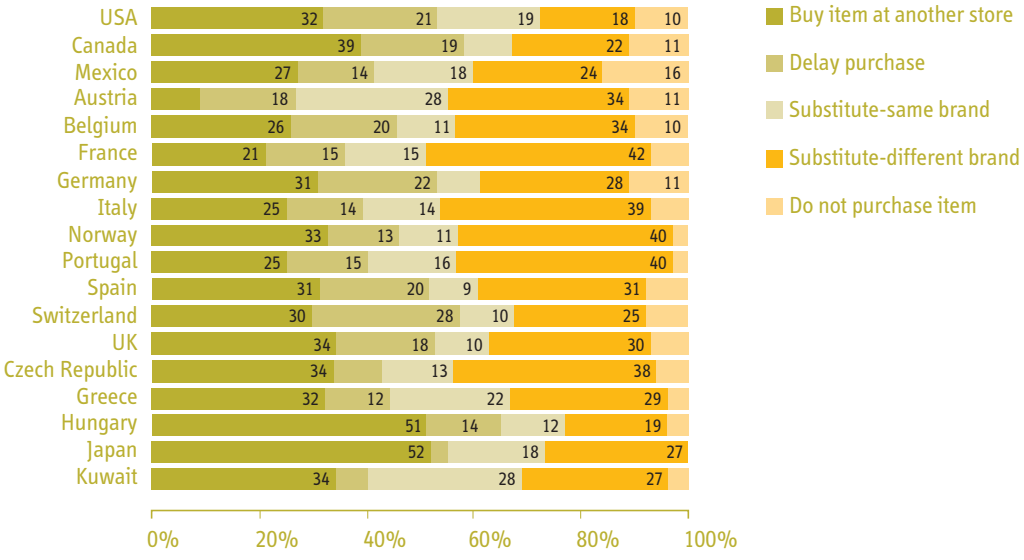
The bar graph (Exhibit 3) illustrates the way that consumer responses vary by category. The graph shows the worldwide average for each of the categories examined in the study. This provides a benchmark for comparing individual country responses which is shown for the shampoo/haircare category (Exhibit 4).

Several factors impact the consumer response to OOS items. Traditionally these have been categorised based on the nature of the category, type of product, type of consumer, the immediacy of need, and the general brand loyalty.

However, all these factors interact, making it difficult to develop a generalised scheme to help determine the likelihood of a consumer's reaction.

To present a generalised approach, we found similarities in multiple academic consumer research studies which have

Exhibit 4: Shampoo/hair care (% response)



examined this issue. All suggest that there are three primary drivers that interact and cause the consumer to take one action over another.

Using economic theory, a team of Belgian and Dutch researchers present the opportunity cost of not being able to consume the product immediately, the substitution cost of decreased utility of a less-preferred alternative, and the transaction cost of the time and effort required to obtain the preferred item. Using their terminology, we constructed the table below (Exhibit 5) to show how the levels of each of the three cost components interact to explain a consumer's likely response to an OOS situation.

When the opportunity cost of not being able to immediately consume the product is high – for example, when one runs out of diapers – the consumer will either substitute or find the item at another store. Alternatively, a low-opportunity cost will lead to either purchase delay or cancellation.

When the substitution cost of using a less-preferred brand is high – for example, in the case of feminine hygiene and laundry – the consumer will take any action except substitute another brand. When the transactions cost is high and the time and effort to purchase later or elsewhere, the consumer will either substitute or cancel purchase.

Each individual cost component is limited in its ability to explain the consumer response. However, the table below shows how different reactions can be explained by the interaction of the three components.

This perspective shows that consumers switch more in some categories than others. For example, we found feminine hygiene has low substitution, since these are very personal products and there is a high substitution cost. However, when the brand is less personal, eg, paper towels, more substitution between brands may occur.

Cost to the retailer of OOS

While most studies concentrate on the sales loss to the retailer created by OOS items, the total "cost" of OOS affects the entire supply chain and can be divided into four areas:

1. retailer shopper loss risk. When shoppers permanently switch stores due to OOS situations. Either the new preferred store has overall lower OOS levels, or it has lower OOS levels on items of greatest value to the consumer. In the aggregate, assuming heterogeneity in consumer value on items, the store with a lower overall OOS level will lose fewer customers and gain more customers from other stores

2. retailer sales loss risk. This is from three components – consumers buying the

Exhibit 5: Consumer cost components and OOS behaviour

When the opportunity cost is...	And the substitution cost is...	And the transaction cost is...	Then the consumer will...
High	High	Low	Buy item at another store
Low	High	Low	Delay purchase
High	High	High	Substitute-same brand
High	Low	High	Substitute- another brand
Low	High	High	Do not purchase item

OOS item at another store, consumers cancelling their purchase of the item, and consumers substituting a smaller and/or lower priced item. Sales-loss risk is calculated by combining the estimated lost sales percentage from these three components and multiplying this by the extent of OOS. The result provides an estimate of the percentage of the retailer's total gross sales that are lost due to items being OOS

3. manufacturer shopper-loss risk. When consumers switch to a competitor's brand within a category, not only for the immediate purchase but also ongoing purchases

4. manufacturer sales-loss risk. When consumers substitute a competitor's item or cancel a purchase.

Other implications of OOS include logistics and information inefficiencies in the supply chain. Irregular, fill-in, and "rush" orders due to OOS situations cause logistics-fulfillment inefficiencies. These are subject to "demand amplification" or the "bullwhip effect" where small shifts at the retail level become magnified further up the supply chain.

Information inefficiencies are created when the ordering signals sent up the supply chain reflect a pattern other than true consumer demand.

The key to understanding the implications of OOS, as well as the benefits of addressing OOS at the retailer, is that the areas of loss are interdependent. A reduction in the sales loss to the retailer also reduces the resulting shopper loss risk, the risk to the supplier, and the resulting supply-chain inefficiencies.

Most of the attention in measurement has been in the area of retailer sales loss. This is typically estimated based on the following formula:

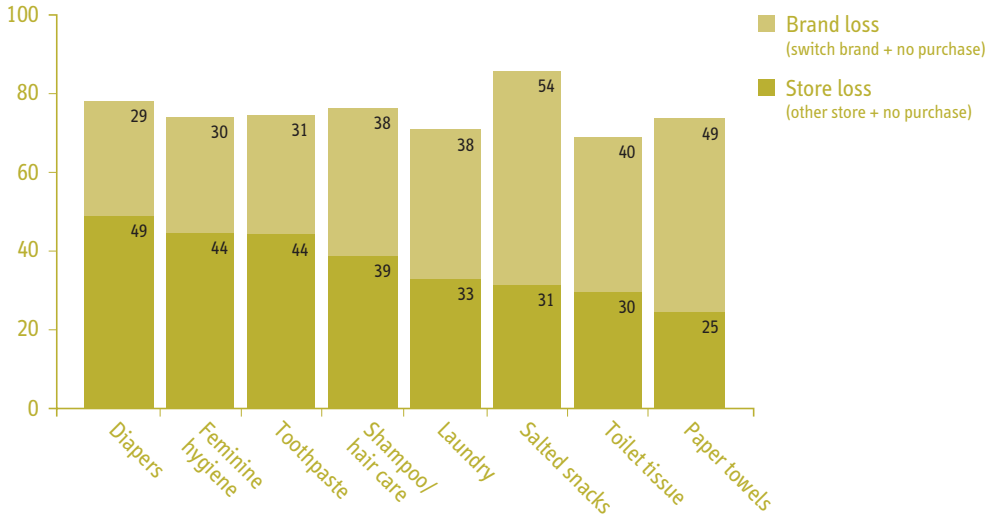
Percentage of consumer responses that negatively affect the retailer x OOS Extent

We also estimated the retailer loss based on the rate that consumers would substitute between and within brands when confronted with an OOS. Exhibit 6 graphically presents the results of the calculations. The worldwide benchmark average is 3.9 per cent sales loss at retail due to OOS items. The regional averages as well as worldwide averages by category are also presented.

The chart shows that overall sales losses are similar worldwide, with a narrow range from 3.7 per cent to four per cent. However, category sales losses vary dramatically from 2.1 per cent to 4.5 per cent.

Regardless of how the data is cut, the implication is still the same – both the manufacturer and the retailer have created value for the consumer, but nearly four per cent of this effort is wasted

Exhibit 6: **Retailer vs. manufacturer loss by category**



because the retailer cannot extract the value from the consumer due to OOS items.

Root causes

Previous studies have placed most of the responsibility for OOSs on retailer store ordering and forecasting practices. Retailer store managers must simultaneously manage thousands of SKUs and work with hundreds (often thousands) of simultaneously promoted items (which cause demand to fluctuate), while keeping personnel costs within reason.

Furthermore, retailers face complementary issues such as shrinkage that becomes more difficult to control as inventories increase. Thus it is not surprising to see a strong linkage of OOSs with store-ordering practices. However, the real story is more complex.

Our examination of 18 studies worldwide provides the following general ranges and tendencies of OOSs causes. The studies that provided us with the most reliable measures were segmented into three regions: USA (six studies), Europe (10 studies), and Asia (two studies). This provides the ability to make comparisons by region.

Broadly speaking, causes of OOSs tend to be assigned to one of the following three general processes: ordering, replenishing and planning.

- **ordering practices.** This covers two general categories. First, the retail store may have ordered too little or too late, so the warehouse could not deliver before the retailer ran out of the item. Second, the retailer forecast may have misjudged demand for an item and ordered an insufficient supply. Often when an item is promoted, inadequate supply is ordered to meet demand. Other ordering practices also play their part, for example, insufficient ordering by the warehouse, such as when a major promotion by the chain causes demand to exceed supply
- **replenishment practices.** In this case, the product is in the store (often in the backroom, but also sometimes in another area of the store) but it is not on the shelf when the consumer comes to buy the product. This can be caused by inadequate shelf space allocated to the item so that it runs out before regular restocking occurs, lack of an adequate signal to retail management that the product is not on the shelf, or poor back-room inventory handling procedures that impede the ability of store personnel to get product from the backroom inventory on to the shelf. Replenishment issues also occur upstream from the retail store. On the warehouse level, the warehouse may have insufficient inventory to meet demand and "scratches" the retailer's order

The implications are clear. Manufacturers and retailers create value for consumers, and nearly four per cent of this effort is wasted

- **planning practices.** This category covers several possible causes. The item may have been discontinued but not communicated to the retailer, the manufacturer may not have shipped adequate inventory, or there may be a product "drought" where the manufacturer is unable to produce enough to meet demand.

It is important to note that in these studies, the root causes are estimated or calculated rather than directly measured. For example, if an item is OOS and was ordered at the most recent opportunity, the assumption is that the retailer ordered too little to meet demand, and thus the cause would be assigned to retailer forecasting.

Alternatively, if the item was not ordered at the most recent opportunity, then the assumption is that the store ordered an insufficient quantity. This is why the assigned causes may not be true "root causes" but simply the most plausible place to assign responsibility. In some cases this may reflect the symptom rather than the cause.

Given the differences in methods and reporting of root causes across the studies, it is difficult to confidently present averages. However, there are several insights which can be made from examination of the data presented here. Exhibit 7 presents a simple average of all 18 studies. It is important to use these averages as benchmarks, because they may not necessarily represent true worldwide averages. However, given the relative consistencies across the various studies, many observations can be made.

The first three causes are direct responsibility of the store, while the last three causes are upstream responsibility.

Worldwide, the two greatest causes are inaccurate forecasting (34 per cent), an indicator of increasing demand volatility, and shelf-replenishment (25 per cent). The latter is particularly surprising when compared with the much-cited 1996 Coca-Cola Research Council study.

While this study attributed a higher percentage to ordering (19 per cent) and forecasting (54 per cent) it traced an average of only eight per cent of the OOS situation to product being available in the backroom but not on the shelf.

Similarly, the 2002 GMA study in the US showed only an average of about four per cent of OOSs involved product which was available in the back room but not on the shelf. However, nearly 25 per cent of OOS was due to product in a secondary location in the store.

This may be characteristic of direct-store-delivered categories. In the proprietary studies we examined, where it was specifically measured, we found much greater responsibility attributed to having products in the store but not on the shelf.

Broadly speaking, the causes of out-of-stocks can be assigned to one of three general processes: ordering, forecasting and planning

Although – or because – most manufacturer efforts to address OOSs are directed to the warehouse, this represents only 10 per cent of the root cause. Clearly, if manufacturers and others want to see reductions in OOS levels, they need to address the more prominent issues of store ordering, forecasting and replenishment.

We were surprised to find that in the US, significantly more causes of OOSs are attributed to ordering practices (51 per cent) than in Europe (32 per cent).

On the other hand, in Europe there seem to be more problems with regards to replenishment (47 per cent) than in the US (32 per cent), particularly shelf replenishment (ie, when the product is already in the store).

This is counterintuitive, as one would have guessed that smaller back rooms and efficient transport networks in Europe would alleviate this cause. Asia seems to be slightly worse with regards to ordering, however, the Asian sample is very limited.

Somewhat striking, 72 per cent of all OOS across the world are caused in the store, by bad store practices, late and insufficient ordering, wrong forecasts, or shelf restocking problems.

Conclusion

What does one conclude from all of this? There are many possible lessons.

- First, all of the studies we examined point to a common concern. OOS has been, is, and will continue to be a problem. The aggregate extent we found of 8.3 per cent (and the similar results found through other industry studies) continue to (and should) raise alarms throughout the FMCG industry.
- Second, OOS is costly. While the total costs to the supply chain have not been investigated, we found that worldwide, average sales loss due to OOS is 3.9 per cent.
- Third, not all OOS are the same. A slow-moving item which is OOS will be less costly to the store than a fast-moving item. Similarly, consumer substitution varies extensively among categories, affecting the retailer and manufacturer to different degrees.
- Fourth, duration of OOS is important. While techniques for measuring the duration of OOS are fairly new, the impact of long-term OOS problems impacts not only the sales of the item, but also the likely potential of a consumer to switch stores.
- Fifth, most of the responsibility for lowering OOS rests in the retail store. Unfortunately, manufacturers have placed their resources towards lowering OOS on solving supply chain problems. This focus will need to shift if the problem of OOS is to be effectively addressed.

Most of the responsibility for lowering out-of-stocks rests in the retail store. Yet most manufacturer attention has been focussed on supply chain issues

- Sixth, it is important to understand the limits of projections based on the findings of this research. The data was not collected in such a way that macroeconomic projections of the total cost to the industry can be confidently projected from these findings. However, any retailer can utilise the findings here to use as a benchmark comparison when addressing OOS items. For example, if the retailer estimates sales losses as greater than our estimated average of 3.9 per cent due to OOS items, they will likely have a large payoff from addressing the issues. Alternatively, if the retailer estimates sales losses as much less than 3.9 per cent (for example, if the losses are about 2.1 per cent), then the payoff may be much lower.
- Seventh, as we examined consumers across the world, we found that customers are indeed localised in their choices. However, when their choice is taken away through an item being OOS, consumers behave in a similar manner globally. In the end, the retailers (and their supply chains) which satisfy customers on this issue will be those more likely to succeed.

Altogether, improving availability is imperative but it comes at a price. Reducing OOS requires initiatives that cut across functional boundaries and, often, a fundamental rethink of retailer processes. Thus, we were not surprised that some of the retailers and suppliers did not follow through with actions after having measured the extent of OOS.

However, we believe most retailers have not reached the threshold where it will cost them more not to reduce the incidence than it will cost them to invest in solutions.

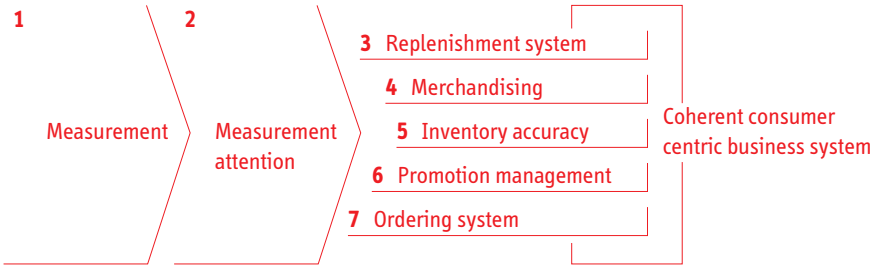
OOS remains a major issue for not only the retailers, but also for all parties in the supply chain. As many retailers begin to address OOS with the newer, technologically sophisticated solutions, they are setting new standards.

Consumers will soon expect these standards to be met as the level required to earn their business.

References

1. GMA Gruen, Thomas, Corsten, Daniel and Sundar Bharadwaj (2002) Retail Out Of Stocks: A Worldwide Study of Extent, Root Causes and Consumer Reactions, Grocery Manufacturers of America, Washington DC.
2. Campo, Katia, Els Gijsbrechts and Patricia Nisol (2000), "Toward Understanding Consumer Response to Stock-outs", Journal of Retailing, 76 (2), 219-242.

Seven levers to tackle out-of-stocks



Source: Roland Berger

The Barcelona ECR conference heard the results of one of the biggest research studies ever carried out by ECR Europe – into out-of-stocks. The research, by Roland Berger Strategy Consultants, covered 27 manufacturers across Europe, and 10 retailers.

A root cause analysis revealed that 35 per cent of out-of-stocks are caused by faulty store ordering, 30 per cent by an item not being correctly merchandised, 12.1 per cent by faulty shelf replenishment and 11 per cent by inventory inaccuracies.

It recommends a seven point strategy for tackling out-of-stocks (see chart).

One of the next issues of ECR Journal/International Commerce Review will carry a full report of this research