



# The Business Case for Collaborative Product Information Management in Retail

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How Retailers Are Reducing Costs, Increasing Revenue  
and Enhancing Customer Service



## Managing Product Information in a Rapidly Changing Environment

In today's global marketplace, the information associated with a product is fast becoming a critical link in the supply chain. That chain cascades back from the consumer at the point of sale to the store aisle, shelf, and stock room, through the warehouse, distribution center or partner, to the manufacturer's warehouse and factory floor. At every link, product information is used to make buying decisions, drive operational efficiencies, and directly impact time-to-market. With approximately \$6 trillion spent each year in the United States on consumer goods alone, the new information reality is one that retailers can ill afford to ignore if they are to compete effectively and secure a share of a rapidly changing market.

Four trends are combining to create this intense new environment. First, today's retail industry faces increasing segmentation, as a result of the increasingly explicit segmentation of their customer base. Growing numbers of superstores are able to capture all the efficiencies of sourcing and simplified merchandising, while niche players provide personalized customer service around highly targeted, well-priced items. Traditional retailers are caught in the middle, losing customers on both the high end and the low end — their pricing is too high and stores too impersonal. Still more important, inefficient supply chains create losses with slower introductions of new products. Traditional retailers need to seek out ways to offer more convenience, better value, superior merchandising, and more rapid time-to-shelf. To accomplish this, product information has to be managed better to improve sourcing, optimize the warehouse, evaluate vendors, and reduce operating costs.

Second, the number of customer interaction points and channels is growing, and new ones are emerging almost daily. With customers just as likely to use a retailer's catalog as refer to a web site or walk into a physical store, retailers must ensure that products and product information are consistent across every point of contact. For example, consumers expect — and demand — the description of a specific product found in a catalogue or web site matches the promotional description of the same product in the store. Retailers must synchronize information in real time to avoid inaccurate information that leads to increasing out-of-stocks, returned product and ultimately lower profits.

Third, a number of global standards have emerged that seek to resolve product information issues, especially as they relate to information exchange. Global Data Synchronization (GDS) focuses on the synchronization of master data between retailers and suppliers. Sunrise 2005 requires the change of UPC codes from 12 to 14 digits to



improve data consistency. An especially important innovation is the growing use of Radio Frequency Identification (RFID), based on the electronic product code (EPC) standard, to improve inventory management at the store. Without clean, rich, validated product information based on these critical standards, the benefits of cost-effective, accurate data cannot be realized. Retailers are forced to invent proprietary point solutions that eventually become too expensive to maintain.

Fourth, customers are becoming increasingly sophisticated. They evaluate and research products using one or more channels and then often make the actual purchase through a third. With shifting worldwide demographics, more highly educated and sophisticated consumers are demanding improved product information at their fingertips. From detailed fat and carbohydrate data to drug compatibility information, consumers have come to expect specific, pertinent and customized product information more than ever before.

## The New Strategic Asset: Product Information

At the end of the day, a retailer's inability to effectively leverage product information throughout the supply chain can have serious business implications:

- Delayed time-to-market or time-to-shelf
- Slow product introductions and product changes
- Inability to collaborate across internal and external constituents
- Error-prone and inaccurate product updates
- Ineffective private label branding and merchandising
- Inefficient costs and processes
- Lack of technical capabilities to support new business initiatives

Independent studies show that the resulting costs can be high — out-of-stock rates as high as 10%, invoice error rates of more than 30%, retail product update errors of nearly 30%, and promotion schedule mismatches or product introduction delays that result in thousands or even hundreds of thousands of dollars in lost revenue.

In this environment, product information becomes a strategic asset, on par with customer, financial, and supplier relationship information. By treating product information as a strategic asset, retailers can position themselves to take full advantage of the huge — and growing — opportunity to win the hearts and minds of consumers.



What exactly is product information? It can include standard transaction-based information such as weight, item number, and supplier data, but it doesn't stop there. Product information touches every part of the retail organization: from buyers, category managers and merchandisers, sales and marketing, and store operations to warehouse management, logistics, and the supply chain.

Product information includes a wide variety of structured and unstructured data such as packaging data, product photos, graphics, ads and other promotional information. Such information is critical for enabling many key retail tasks. For example, a merchandiser who wants the best fruit to be featured in primary stores will ask suppliers to provide information on sugar content, so that specific products may be placed in the most advantageous locations. Today, consumers are asking for a variety of current information, including safety and hazard information and country of origin; retailers must capture and track such data to provide to customers via labels, shelf-tags, kiosks, or web sites.

As product information becomes a new strategic asset that helps respond to these types of issues, product information management becomes a primary strategic initiative for all retailers today. Retailers that rise to the challenge of improved accuracy, consistency and richness of product information will be rewarded with more satisfied consumers, reduced costs, higher revenues, and a defensible competitive position.

However, this solution is anything but simple. Effectively managing product information can mean handling thousands of products, multiple languages, monthly updates, synchronization of multiple internal systems, and many data sources and destinations. Managing product information and turning it into a strategic asset is a complex process, and retailers face several hurdles on the road to achieving this goal.

## Challenges to Effective Product Information Management

Retailers face four primary challenges to effectively managing their product information:

- **Wide dispersion of product information:** Product information typically differs widely and is dispersed across the distributed retail enterprise, leading to a lack of quality data across regions and between stores. For example, a major retailer recently found that it was buying the same drill for one price in France and for another in the United Kingdom. Data comes from vendors via multiple avenues, including paper and a variety of electronic formats, and retailers often have no



methodology in place for managing pricing information across geographical areas. Consolidating information from all these separate systems is usually still done manually, which is time consuming and error-prone and impacts the ability to either receive or provide accurate and consistent information to all channels and customers. It is also difficult to properly evaluate vendor performance, leading to inferior sourcing, improper vendor management, and other inefficiencies in the supply chain.

- **Incomplete and inaccurate product information:** Not only is product information dispersed across the enterprise, it is often inaccurate, incomplete or redundant. With multiple, inflexible systems at work, errors can be introduced as data passes from hand to hand. For example, the largest retailer in the United States owns no fewer than 219 separate data warehouses. Without product information management techniques, stores may find themselves unable to fulfill today's sophisticated merchandising requirements. Instead of appropriately enriching and customizing product data, ensuring a direct link between related pieces of information requires manual data transfer, risking new mistakes and wasting valuable time. The lack of an automated, collaborative workflow can negatively impact both the completeness and the quality of product information. Still worse, the lack of a scalable product information system means that, as requirements evolve, the problem will only get worse.
- **Lack of data standards and scalable validation processes and controls:** With ineffective or non-existent data standards and the absence of scalable validation processes and controls, retailers are faced with an inefficient organization and inconsistent, incomplete data. Manual processes communicate information internally and with suppliers and distributors, perpetuating errors that can result in inaccurate order fulfillment and more invoice queries, delayed time-to-shelf, slow or inaccurate product and pricing updates, and ineffective branding and merchandising. From a strategic perspective, these manual processes also offer retailers no organizational memory. This makes it difficult, if not impossible, to maintain and control accuracy and completeness, or to streamline the process of getting the right products to the right audience. It also makes for increasingly costly problems down the road.



- **Inability to effectively distribute product information:** Retailers lack the ability to effectively and seamlessly distribute product information to multiple destinations, within the organization and with their manufacturing partners. This is only exacerbated by the fact that retailers have more systems, people suppliers and customers than ever before. A typical retailer finds itself managing several hundred siloed stores, with different systems and processes for everything from inventory management to store operations to merchandising. Each struggles to communicate effectively with manufacturers, distributors, consumers, personnel and advertising and marketing organizations — each demanding unique product information in real time.

Combine these four challenges with today's dynamic business environment and retailers are faced with a problem that must be addressed head-on to deliver competitive advantage. To date, most solutions have proven insufficient, especially given the continuously evolving nature of product information requirements. While a number of point technologies have been introduced, until now no comprehensive solution has emerged that resolves product information requirements across the value chain.

## Today's Solution: Collaborative Product Information Management

Collaborative Product Information Management (CPIM) is a comprehensive system designed to address the full range of internal and external product information requirements, processes, data standards and synchronization.

CPIM transforms product information from a necessary evil into a key strategic asset for retail environments. It minimizes time-to-shelf and cost-to-shelf by aggregating, managing and delivering accurate, enriched product information to improve performance across the entire value chain. In doing so, it empowers the entire retail system, from master data warehouses and product information repositories to category management and merchandising, POS systems and store operations. Leading retailers are increasingly adopting CPIM and its related technologies to achieve dramatic increases in revenue, productivity and customer satisfaction, as well as a significant competitive edge.



As a result, customers are finding new product introductions they have seen advertised on the shelf sooner, helping to increase “lift” factor and improving store traffic and same store sales metrics. Customers experience greater satisfaction as the result of a better store experience, with more accurate and complete product information leading to optimized merchandising and shelving, and ultimately shorter checkout lines. Retailers are able to better understand and automate critical business processes, aggregating and enriching supplier data and delivering it to multiple store systems.

The CPIM solution provides comprehensive information management throughout the life cycle of the product, incorporating advanced business process automation and providing multi-channel capabilities. It offers advanced reporting and business intelligence to support higher visibility into market acceptance and other performance measures to enable sound business decisions. And, by integrating seamlessly with existing back-end and front-end systems, it protects corporate investments while unifying product information across the enterprise.

## Key Benefits of Global Data Synchronization

- 3 – 5 percent reduction in shelf out-of-stocks
- Two-week reduction in speed to market for new items – i.e., 14 extra days’ sales of faster-moving items
- 10,000 – 30,000 hours saved in store labor costs resulting from shelf-tag and scan errors
- 5,000 – 10,000 hours saved in merchandising and data entry time dealing with new item introductions and updates
- 1,000 – 2,000 hours saved in finance time dealing with invoice disputes related to basic item information
- Reduction in invoice auditor fees
- 0.5 – 1 percent reduction in inbound freight costs
- 1,000 – 2,000 hours saved in warehouse and DSD time dealing with item discrepancies
- 1 percent reduction in inventory



With CPIM, not only do retailers realize direct cost savings — due to increased productivity, fewer personnel requirements and reduced overhead costs — but they also experience lower costs as a result of:

- Reduced logistics, distribution and warehousing costs due to fewer order content errors
- Faster time-to-shelf and fewer stock-outs based on proper and swift information exchange with vendors
- Better sourcing decisions due to complete, centralized information
- Increased supply chain and fulfillment efficiencies due to accurate sharing of information with vendors and within the retail environment itself

The cost savings experienced by companies that have implemented CPIM are real and significant. A major grocery chain recently reduced logistics costs and inventory costs by three percent each.

## The Business Benefits of CPIM

### REDUCE COSTS

Retailers that implement CPIM realize tremendous cost savings due to reduced data errors, improved business process automation and increased productivity. Because CPIM continuously and automatically aggregates all product information, error-prone manual data transfer and redundant systems are eliminated. The definition and automatic enforcement of internal data standards throughout the enterprise also removes inaccuracies and inconsistencies to avoid out-of-stocks, shipping and pricing errors, and returned goods. Savings can be realized by assuring that pricing information is in sync from the system that generates the shelf tag to the POS system, mitigating the risk of federal inspection penalties for inaccurate price tags. Additional savings can be achieved in the warehouse, for example, where processing deliveries can be streamlined by having accurate pallet dimensions and product information before the truck arrives. Warehouse managers are not only able to assure that the correct product is being shipped, but to create a proper pallet configuration and avoid any repacking.



Product information management is unique in that it involves so many parts of the organization. Due to this fact, managing workflow can be far more challenging than in other areas. With automatic workflow and validation of business rules, however, CPIM allows retailers to integrate critical personnel, functions and data across the entire business process. By enforcing user- and role-specific validation, every participant can access pertinent information, enhancing both the accuracy and timeliness of product data and the productivity of employees. Because CPIM automatically synchronizes enriched product information in the central repository with internal transactional systems, the value of that information is enhanced throughout every store.

## Case Study:

### **A MAJOR GROCER REDUCES COSTS AND INCREASES CUSTOMER SERVICE WITH CPIM**

One of the world's largest retailers faced an increasingly important challenge — getting closer to customers while reducing costs within the supply chain. In the retail environment, every fraction of a percent of margin counts, and the company was suffering from the pressure of increasing margins at the same time it set the corporate goal of moving up-market in an extremely competitive marketplace.

The company's product information resided in a number of older systems and was maintained almost entirely by manual processes, hindering managers' ability to understand the dynamics of their customer base and respond quickly to changing needs. These mature and complex systems made updating data both time-consuming and expensive. Streamlining communications to get the right information from suppliers was equally difficult. As a result, supply chain costs were ballooning as rampant product information inaccuracies created inefficiencies throughout the organization.

After evaluating different approaches, the retailer implemented a flexible CPIM solution and began to see immediate results. Managers gained the ability to rapidly and flexibly store demographic data by store or region and match those demographics to specific product and promotion data to best serve the customers in each store. CPIM also helped the company communicate more precisely with each vendor through industry-standard data pools, such as WWRE, UCCnet and Transora, and obtain information unique to that particular relationship. Based on the solution's workflow capabilities, formerly manual paper-based processes are now performed automatically, resulting in far fewer errors and gaining faster time-to-shelf.



As this retailer's initiative has become established, results are being seen such as product updates being performed in days instead of weeks, and a far more effective product information management process. This in turn has created a reduction in inventory and logistics costs and an increasing ability to provide the right product to the right customer, based on personal preferences. In the future, the company plans to extend its CPIM system to allow vendors to input new product information from a kiosk, eliminating the time-consuming and error-prone process of filling out repetitive forms, as well as implement partner portals in order to enable its private label suppliers to exchange product information in a streamlined, rapid manner.

### **INCREASE REVENUE**

Because it improves data quality and accuracy as well as the speed of synchronization and distribution, CPIM reduces time-to-shelf, creating longer high-profit product cycles. It also enables parallel workflow by automating business rules to validate product data across store regions. This captures errors early in the process, reduces the need for manual intervention, and ensures that the same product information is displayed in an appropriate format for every user of the system.

To ensure that all team members are on the same page throughout the life cycle, CPIM automatically synchronizes all internal systems. Repeatable, automated internal and external workflow and synchronization capabilities provide greater operational efficiency and data accuracy throughout the process, enabling automation of corporate best practices while maintaining organizational memory.

Streamlined coordination and collaboration also improves the efficiency and speed of the introduction process, putting products on the shelf more quickly and lengthening their sales life. Because product up-sell and cross-sell relationships can be defined in the system, CPIM also enables retailers to fully optimize and monetize such relationships through earlier and more complete recognition of these opportunities.

With CPIM, retailers can realize revenue improvements through:

- Accelerated time-to-market and time-to-shelf for product introductions and changes, resulting in increased market share, faster revenue recognition, greater margins, and improved lift factor
- Improved same-store-sales and market share by having new products in-stock and available for purchase before the competition does



- Higher revenue capture due to fewer price related errors
- More effective branding and merchandising as a result of increased actionable information related to the requirements of specific stores or demographics
- Increased numbers of cross-sell and up-sell sales generated by the availability of accurate, customer-specific product information
- Higher sales and reduced returns to the store through consistent, complete, and accurate product information presented to customers at the point of sale

### **ENHANCE CUSTOMER SERVICE**

CPIM enables retailers to improve customer service based on providing their consumers better, richer product information. With the number of customer interaction points and channels growing, the ability to provide pertinent, rich and consistent information to consumers in whatever format they choose — whether it is via a kiosk, the web, etc. — becomes critical in keeping consumers satisfied.

Customers also find new product introductions they have seen advertised on the shelf sooner, helping to increase lift factor. By coordinating with promotions and merchandising plans, retailers increase sales with powerful product placement and timely order fulfillment. They are also able to manage product information from a store specific or regional focus, allowing them to improve service by directing sales efforts in accordance with the particular needs of their customer base.

Once shoppers have completed their purchases, what they want most is a rapid checkout. A critical goal for retailers is to help the customer through the final sales process as quickly and smoothly as possible. More accurate pricing, sales and promotional information at the checkout stand helps consumers through the process as conveniently as possible, increasing the pleasure of their buying experience and improving the chances of their return.

Using CPIM, retailers realize customer service improvements through:

- Better responsiveness to and understanding of customers' needs
- Faster exchange of accurate data with suppliers
- Improved collaboration between stores through customized, enhanced data



## RETAILERS WITH PRIVATE LABELS

An additional need is introduced by retailers with a private label program, who become manufacturers as they bring private label items to market. Many complications arise as companies begin to manage the additional information surrounding such ventures. A major grocer, for example, has a private label brand of ice cream that it retails through its chain of stores. However, it also vends the same product to another company, which places its brand name on the product and sells the ice cream at its chain of stores as well.

Such arrangements maximize access to buyers of high margin products, but also lead to a much more complex product information environment. Attributes must be considered from the point of view of manufacturing as well as retail. The global synchronization of information, global ownership of information, wide dispersion of product information, branding, merchandising, logistics — all these areas, and more, are affected by the introduction of private label initiatives.

In such environments, CPIM solutions have proved invaluable, as they can be easily extended to the manufacturing arena by taking on an additional role in the supply chain. CPIM has already been adopted by many global manufacturing organizations for its ability to interact effectively across the entire market environment, allowing for direct costs savings from fewer shipping errors and fewer personnel requirements as well as realizing higher revenues through faster time-to-market and extending sales windows through active End of Life (EOL) management. In addition, with CPIM's ability to support rich data exchange, including drawings and product specifications, retailers can better communicate and collaborate with their partners on design and manufacturing for their private label items. Throughout the process, product information is synchronized with merchandising, pricing, store and partner systems.

## Five Critical Capabilities of CPIM

To achieve these significant successes, an effective CPIM solution needs to provide five key capabilities:

- Total product information management
- Advanced business process automation
- Multi-channel product information synchronization
- Integration with existing systems
- Reporting and business intelligence capabilities



## **TOTAL PRODUCT INFORMATION MANAGEMENT**

First and foremost, a successful CPIM implementation must offer comprehensive product information management through an extensible and flexible data model, support for multiple classification schemas, product and attribute relationships, and automated data validation.

With an extensible data model, users can easily expand and customize the number of product attributes on the fly without involving the IT organization. For example, a global retailer selling a high-powered drill may decide to market it with a hard metal toolbox as a professional builder's kit and with a smaller toolbox with a leather handle for the home handyman. These items will go to different stores within the chain, depending upon local demographics. Attributes must therefore be set up not only to accommodate a wide variety of drill speeds, motor horsepower, accessories, etc., but also to support the up-sell opportunity with packaging specifications, geographic, marketing and promotional information. These attributes will change often to accommodate shifting demographics, sales, vendor pricing opportunities, etc.

For a large retailer with hundreds of different products, accurately managing these complex attributes, from many different manufacturers, can be next to impossible without an effective CPIM solution. Its flexible data model allows users to customize attributes and ensure accuracy of data for each specific product.

In addition, CPIM enables the definition of relationships between products and attributes. For example, a fashion-forward clothing retailer plans for a set of summer fashions to enter their EOL cycle in July. These items are marked to be automatically repriced as of the July 4 weekend sales. When the pricing of the garments changes, the relationship established within the CPIM solution ensures that a new set of promotions and display instructions are included as part of the product information, guaranteeing that every store will know to include these items in the weekend sale and how to market them.

CPIM also enables defining relationships between products, allowing companies to take advantage of up-sell and cross-sell opportunities. A tools retailer selling drills, for example, may provide linked information from partners to the appropriate toolbox, power cords, bit sets, and other related products of interest to buyers. Or, it may offer the next most powerful system to the end-user, emphasizing its additional benefits.



CPIM additionally supports multiple classifications for products. A retailer selling girls' school uniforms may wish to categorize the entire outfit together as a school uniform, but also separately as a blouse, skirt, and shoes. Classifications can also include each school by name with its requirements, to enable better customer assistance.

Finally, the ability to automate all validation rules — both incoming and outgoing — is another critical feature of a successful CPIM solution. For example, a user could create a rule to ensure that units of measure are entered in pounds (LB) or kilograms (KG), enabling validation of newly entered data. It may also be used to ensure the system knows that net weight is always lower than gross weight. Tremendous power lies in this ability and ensures that product information is accurate at all times.

### **ADVANCED BUSINESS PROCESS AUTOMATION**

Successful CPIM implementations incorporate automation of critical product information management processes — such as new product introductions, price changes, deal management, and promotions — to support every aspect of the retail organization: from buyers, category managers and merchandisers, sales and marketing, and store operations to warehouse management, logistics, and the supply chain. In the creation, modification, delisting and dissemination of product information, data must be rationalized and automated so that all these users gain access to the information they need and know it is accurate and complete.

Because CPIM enables industry-specific workflow, these business processes are accelerated. Ownership of product information remains with the originating source or appropriate individual, improving the availability and accuracy of product data, while allowing for decentralized, streamlined operations. Companies are more agile because these procedures run concurrently rather than serially.

### **MULTI-CHANNEL PRODUCT INFORMATION SYNCHRONIZATION**

The ability to manage product information across many channels — both external and internal — is the third key component of a successful CPIM solution. Externally, retailers must obtain and synchronize information from hundreds of external sources, including vendors, brokers, and distributor portals or data pools. This places tremendous pressure on retailers to receive and send data in a variety of formats, often varying even within regions. With CPIM, retailers can easily validate and customize information for virtually any format or system — including data pools like WWRE, UCCnet and Transora — to support every partner relationship more effectively.



CPIM also allows retailers to disseminate relationship-dependent data to specific manufacturers or partners. Whereas one vendor expects to be supplied with the contract number on every purchase order, another may request that it receive renewed shipping instructions.

Internally, validated product information is communicated to internal systems to support merchandising, category management, store operations, logistics, customer support center, inventory management and many other areas. The same information must also be delivered to customers, catalogs, or web sites in a meaningful way. CPIM ensures that the right information is delivered in the right format to the right system at the right time.

### **INTEGRATION WITH EXISTING SYSTEMS**

Product and product-related information originates and resides in different departments and business units across the enterprise. To be effective, a successful CPIM implementation must leverage the data in legacy systems — whether back-end, transactional systems, or store-level applications — and potentially augment and enrich this data for maximum ROI. CPIM thus allows retailers to increase the value of both their product information and the systems in which it resides.

It is equally important to ensure the changes to product information made by manufacturers, outside marketing and advertising groups, and other external entities flow to existing systems, as appropriate, and that this information is accurate and in sync. A successful CPIM implementation helps ensure information is updated in the right systems every time, through support for a variety of integration methods supporting any company standards that are in place.

### **REPORTING AND BUSINESS INTELLIGENCE**

Organizations need insight into product data and product information processes to make well-informed and timely business decisions. Supported by a CPIM solution enabling real-time measurement of key performance indicators (KPIs), managers can make opportune choices to help ensure corporate health. For example, they may wish to measure sales volumes or profitability by vendor. With an effective CPIM solution, managers can track a variety of metrics through the effective use of vendor scorecards.

In addition to real-time performance measurements, an effective CPIM solution should deliver a wide variety of customizable reports, allowing companies to measure effectiveness of business processes over time. A report on the effectiveness of the



restocking process, for example, may reveal that products from a specific vendor are arriving two days later than they used to, negatively impacting revenues from a popular item. Another report might show a significant portion of sales shifting to in-store kiosks, suggesting that more product information should be pushed to that channel. With built-in reports that support all standard reporting and analysis tools, a successful CPIM implementation allows companies to understand problems and determine solutions that protect their market position.



## Conclusion

Retailers today face tremendous market pressures. Formidable competitors are being born of industry consolidation, and a constant stream of new products is placed on the market in almost every category. The proliferation of global competitors and new customer touch points, as well as increasingly sophisticated consumers, demands more and better product information at every step in the supply chain between manufacturer and retailers.

The answer lies in retailers' ability to leverage product information as a strategic asset and in their commitment to effectively harnessing and managing such information to improve overall business performance. Product data is as complex and detailed as the product life cycle itself, and forces companies to tackle challenges ranging from widely dispersed, incomplete, and inaccurate data to a lack of standards and ineffective delivery capabilities.

Collaborative Product Information Management (CPIM) offers a comprehensive approach that confronts and resolves these challenges. In doing so, it delivers powerful business benefits: reduced costs through reduced errors and improved productivity, improved customer satisfaction through better service, and increased revenue through increased accuracy and faster time-to-shelf.

Management teams are therefore seeking successful CPIM solutions that offer five powerful capabilities. These include a complete set of product information management functionalities and advanced business process automation. The solution should also offer flexible, multi-channel synchronization with partners and manufacturers and in-depth reporting and business intelligence. Finally, it should protect technology and information investments by fully integrating with existing systems.



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