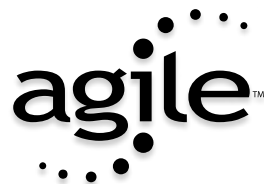


The PLM Advantage in the Food & Beverage Industry



How Products Become Profits™

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In the competitive and highly regulated Food & Beverage industry, product lifecycle management (PLM) can provide a competitive edge that makes the difference between product success and failure.

Food & Beverage companies are faced with many ongoing challenges that threaten their ability to compete, such as:

- ▶ Low growth and margin pressures resulting from aggressive competition;
- ▶ Complex and ever-changing regulations imposed by government agencies;
- ▶ Lack of transparency and traceability caused by complex supply chains and product structures;
- ▶ New demands originating from customers to improve productivity and reduce cost to serve;
- ▶ Renewed concerns coming from consumers in the areas of nutrition and food safety.

This leaves the Food & Beverage companies ill-equipped to fight the battles on many different fronts. These companies have to:

- ▶ Accelerate innovation to achieve product differentiation and increase revenues from new products;
- ▶ Quickly react to market changes to preserve or increase revenues and margins;
- ▶ Control product costs by preventing product and supplier proliferation and driving simplification and performance through the supply chain;
- ▶ Proactively implement compliance in all matters related to product management, including processes such as product development, specification management, food safety and nutrition;
- ▶ Achieve visibility and traceability through the product structure and through the extended supply network;
- ▶ Guarantee food safety, product integrity and product labeling;
- ▶ Implement effective collaboration and coordination through the enterprise and with trading partners;
- ▶ Maintain data accuracy and completeness across all internal systems and with trading partners.

Fortunately for the Food & Beverage companies, the answer to all these challenges and opportunities stands in a 3-letter word: PLM (Product Lifecycle Management). PLM enables companies to accelerate innovation, increase profitable revenues from product introductions, drive competitive advantage through product cost and performance, build a best-in-class supply network, ensure product and supplier compliance, and achieve a preferential position with customers.

How? By holistically addressing the seven fundamental processes that impact product management: (1) new product development and introduction, (2) specification management, (3) supplier management, (4) formulation management, (5) packaging and labeling management, (6) compliance and quality management and (7) data syndication.

“PLM is really catching on in the food and beverage industry because it addresses so many issues, such as time-to-market, efficiency, and doing more with less.”

▶ Mike Mahler,
Research Director,
Consumer Goods,
Gartner Inc.



The seven fundamental processes that impact product management.

New Product Development & Introduction

Successful new products often rely on a company's ability to harvest and screen new ideas in order to constantly generate new sources of innovation. Unfortunately, most companies do not have a good system in place to turn new ideas into successful new products. Food & Beverage companies also rely on manual, time-consuming coordination of product development activities across multiple functions, supported by various disconnected departmental systems. On top of that, the absence of a streamlined milestone-based process means that projects are moved forward to the launch phase without clear control and traceability of activities and decision-making criteria. Finally, companies typically lack the ability to view all projects in the pipeline through one integrated dashboard that allows them to evaluate progress made across all projects based on user-defined metrics, and to make resource allocation decisions aimed at optimizing profitable revenue generation.

The result? Lack of innovation, long cycle times for product development projects, loss of productivity, no reuse of organizational knowledge, unprofitable investments, high percentage of product failures - and ultimately a sub-optimal ROI for all product development efforts, and missed market opportunities.

The PLM Advantage: PLM helps companies increase profitable revenues from product introductions. PLM enables the cross-functional management of product development and introduction, leveraging portfolio management capabilities to deliver visibility and optimize results across all projects.

"The benefit of product portfolio management in PLM is that users can look at all a company's product development opportunities, determining which are the greatest potential products in terms of revenue or margin, and reprioritizing resources based on what consumers want," explains Mike Mahler, Research Director, Consumer Goods, Gartner Inc. "Recognizing a trend early gives food and beverage companies the opportunity to leverage what they have in the pipeline, get key new products out to market ahead of competitors, and elongate the window of opportunity for profitability."

PLM empowers Food & Beverage users to:

- ▶ Accelerate product development and launches to reach the market faster;
- ▶ Manage projects across functions and geographic locations via a web-enabled platform;
- ▶ Track all activities and decisions within all projects;
- ▶ Make portfolio-level decisions based on visibility of aggregated project metrics;
- ▶ Improve the success rate of new products;
- ▶ Increase ROI for product development.

Specifications Management

Food & Beverage companies often maintain islands of product information spread across different departments and business units, with no enterprise-wide visibility of product specifications. In addition, separate data is maintained in different languages for different countries, further hampering collaboration.

These inefficient methods lead to high product costs and inconsistent quality because products are not manufactured in accordance with standard specifications. In addition, manual maintenance of specifications causes delays and change control issues.

The PLM Advantage: PLM enables companies to drive their competitive edge through product cost and performance. PLM allows fully integrated management of product specifications through a single enterprise-wide specification system, and establishes “one version of the truth” for all specifications, from ingredients to finished products -- across all divisions, locations, business processes, countries, languages and cultures. Quality, compliance and nutrition management all become integrated through PLM.

PLM empowers Food & Beverage users to:

- ▶ Maintain traceability of specification data through a connected data model, from ingredients to finished products;
- ▶ Reduce product costs through specification rationalization;
- ▶ Reuse existing specifications and avoid specification proliferation;
- ▶ Drive specification review and approval through workflow automation;
- ▶ Ensure alignment of specifications with ingredient and nutrition labeling requirements;
- ▶ View and print all specifications in all required languages and cultures;
- ▶ Print factory-floor documentation directly from the specifications.

Supplier Management

Food & Beverage companies are often limited by a lack of visibility across the supply chain, which hampers the ability to leverage sourcing relationships. Documentation on suppliers is maintained in islands of information, further hindering comprehensive supplier management. In addition, manual processes of soliciting specification data from suppliers are lengthy and prone to error.

The PLM Advantage: PLM enables companies to build a best-in-class supply network. PLM provides the framework to manage suppliers and sourcing relationships as far upstream in the supply chain as needed, with one set of approval criteria across all functions. Through PLM, management of all supply chain entities is maintained via “one version of the truth”.

PLM empowers Food & Beverage users to:

- ▶ Maintain global visibility of all supply chain entities and sourcing relationships;
 - ▶ Improve supply chain performance with vendor consolidation and rationalization;
 - ▶ Automate supplier approvals through cross-functional workflows—all the way down to the specification level;
 - ▶ Collaborate with suppliers electronically to maintain specification
-

completeness and accuracy;

- ▶ Publish all required policy and procedure documentation to suppliers to facilitate compliance.

Formulation Management

Many Food & Beverage companies employ a slow, manual trial-and-error product formulation process, leading to inefficiency and delayed product launches. Without automated formulation management and access to the complete up-to-date product record, companies are unable to properly assess impacts of formulation changes or respond to market changes such as those related to regulations, customer demands, cost variations and nutrient claims.

Meanwhile, reliance on a manual process means Food & Beverage companies are unable to reuse intellectual property that is not digital, but only accessible in hard copy format. The result is high development costs and missed market opportunities.

The PLM Advantage: PLM is the secret to accelerating product innovation. This essential tool enables the rapid prototyping, evaluation and optimization of formulations, with the ability to measure the real-time impact of process and BOM changes on product costing, compliance, nutrient data and ingredient labeling. PLM allows optimization of product formulations based on complex parameters, and facilitates rapid and efficient changes to formulations to meet evolving requirements.

PLM empowers Food & Beverage users to:

- ▶ Accelerate formulation development to minimize time to market;
- ▶ Reduce trial-and-error iterations and associated costs;
- ▶ Track and re-use raw material specifications and experimental formulas;
- ▶ Determine the impact of processing parameters during formulation;
- ▶ Leverage material substitution options;
- ▶ Understand the real-time impact of formulation changes on cost, compliance, nutrient data and ingredient labeling;
- ▶ Optimize formulation based on factors such cost, nutrients, properties and specification ratios.

Packaging and Labeling

Managing packaging and labeling processes is a critical part of the product lifecycle. A baseline product may have dozens or even hundreds of SKUs for a multitude of individual market niches, promotions and channels. In addition, packaging often changes frequently over time to keep the product fresh in the consumer's perception. These challenges must be addressed to facilitate the on-time launch of new products.

The PLM Advantage: Maintaining packaging and artwork specifications in digital format via PLM allows for rapid review and authorization of product changes. PLM facilitates making minor changes to an existing product design, modifying only those attributes that need to change or streamlining design reuse. In addition, a major change, such as a new product logo, can be easily and quickly

propagated across the entire product line. Once authorized, the changes are immediately available in digital form for implementation.

“If alterations are needed in terms of packaging, PLM users can take the original package and easily change the label,” notes Mike Mahler of Gartner. “PLM systems are great for reusing designs without having to redesign the packaging—for example, if the language change, or formulation alterations are made to meet the requirements of a certain region.”

PLM empowers Food & Beverage users to:

- ▶ Streamline packaging and labeling to cut time to market;
- ▶ Develop a faster, more accurate and more collaborative packaging and labeling review process, including user annotations;
- ▶ Save time and cost by supporting efficient reuse of designs;
- ▶ Maintain the entire packaging bill of materials in one “version of the truth”.

Compliance and Quality

Compliance and quality go hand in hand as the Food & Beverage industry’s greatest challenges. Product compliance data is maintained in disparate information silos—from raw materials to finished products—and non-integrated systems result in inconsistent quality. The disconnect between compliance management and product development means companies cannot screen products against compliance rules during the product development cycle, making compliance much more difficult. Product rework and recalls add to the time, expense and difficulty.

Without integrated quality and compliance systems, there is no way to ensure product quality and food safety through the supply chain.

The PLM Advantage: PLM enables companies to guarantee product and supplier compliance. The structure and discipline provided by PLM ensures quality, safety and compliance throughout the product development process and the supply chain—from raw materials to finished products.

Compliance screening is available at any time through the product development, formulation and specification approval processes. Potential compliance problems are flagged at the earliest stages of the processes, eliminating costly recalls and redesign due to compliance issues. If compliance issues do occur, PLM is able to look at the entire product portfolio and identify all products which may be impacted.

Through a central repository, PLM maintains an auditable, trackable record of the product’s development and manufacturing history. PLM utilizes the product record to automatically produce documentation of compliance with the various regulatory requirements. Access to this documentation is the key to compliance, and an advantage to product quality management as well.

PLM supports compliance with regulations pertaining to a company’s process of doing business, and regulations pertaining to the product itself such as package and product labeling, safety and environmental requirements.

PLM empowers Food & Beverage users to:

- ▶ Ensure product quality, consumer safety and regulatory compliance;
- ▶ Manage conformance to specification through testing protocols, including product cuttings and sensory evaluations;

- ▶▶ Avoid rework and recalls by building compliance screening into new product development;
- ▶▶ Validate nutrient claims through the new product development process;
- ▶▶ Maintain accuracy of nutrient data for ingredients and finished products;
- ▶▶ Integrate nutrition surveillance with nutrition labeling.

Data Syndication

It is critical for Food & Beverage companies to maintain product information consistent, complete and accurate across all internal systems and with trading partners. Unfortunately, the lack of harmonization and cross-referencing of product data across multiple disconnected internal systems and the manual re-keying of product information between these systems leads to errors and change control issues. Finished product data needs to be aggregated and cleansed separately from the isolated systems in which they were created, leading to delays, errors and unnecessary additional operating costs. Syndicating finished product data to customers is a manual, time-consuming and error-prone process, creating product data inconsistencies with customers, which result in lost revenue opportunities, higher trade costs and incorrect invoicing.

The PLM Advantage: PLM enables companies to harmonize product data across internal systems. Finished product data is created right the first time as part of the product development process, and syndicated to customers and industry data pools based on GDSN standards as part of the product development process. The same complete and accurate product data is shared across all internal systems and external trading partners.

PLM empowers Food & Beverage users to:

- ▶▶ Ensure data completeness and accuracy;
 - ▶▶ Harmonize and cross-reference data to other enterprise systems, such as ERP, based on workflow automation;
 - ▶▶ Automatically generate GDSN-compliant data syndication to customers through external data pools - all from within the specification approval process;
 - ▶▶ Reduce time-to-market by leveraging a centralized repository for product data.
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Summary

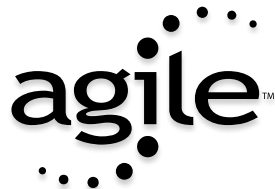
By offering an integrated solution to the seven fundamental processes that impact product management, PLM is the critical factor between winning and losing in the marketplace. By implementing PLM, Food & Beverage companies can accelerate innovation, drive revenues, control product costs, build a best-in-class supply chain, improve productivity, implement compliance and ensure food safety and product integrity.

That is why PLM is becoming the standard for managing the product record across Food & Beverage organizations and supply chains.

“PLM is really catching on in the food and beverage industry,” Mahler concludes, “because it addresses so many issues, such as time-to-market, efficiency, and doing more with less.”

The time for PLM in the Food & Beverage industry is now. Implementing a PLM solution before your competitors do is the first step towards long-term success in the marketplace.

To learn more about how Agile helps Food & Beverage companies effectively and profitably manage product lifecycles, call Agile today at 1 (408) 284-4000, or visit our Web site at www.agile.com.



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