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Product Lifecycle Management Proving Value at Heinz

**A PLM Case Study from the
Consumer Goods Industry --
Food and Beverage**

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Introduction

Henry John Heinz believed that "To do a common thing uncommonly well brings success." And since 1869, the H.J. Heinz Company has supported that belief. Today, Heinz is a premier international food company, with number-one and number-two brands in more than 50 countries.

In early 2000, key Heinz leaders recognized a challenge in their business—namely tracking product specifications, formulas and suppliers across a diverse, global business—and set out to solve it. Along the way, they standardized how they developed and tracked product specifications, reduced the number of ingredients they purchased, increased global communication about product and supplier information, and improved the processes they use to develop and introduce new products to the market. As stated in the Heinz 2003 annual report, “Heinz has launched VIPER (Vendor Improvement and Product Enhancement and Research), a global computerized platform designed to enable the company to dramatically simplify its myriad product specifications. Heinz also reduced its worldwide SKUs by nearly 30% in Fiscal 2003 and is targeting an additional reduction of 10% by Fiscal 2005”.

In short, the Heinz VIPER project is achieving strategic value for their business by combining new processes and technology to form innovative "ways-of-working". Heinz did not set out to implement Product Lifecycle Management (PLM), Collaborative Product Commerce (CPC), Product Data Management (PDM), or any other suite of software solutions. Heinz's core objective was to simplify operations by enhancing communication, coordination, and visibility.

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In the end, Heinz has accomplished what few others in their industry have been able to do—continually leverage product information across the entire lifecycle. The fact that these new business processes and technologies are now known as “PLM”—other than giving us a good umbrella under which to discuss how Heinz improved their business—is not important.

What is important, of course, is the value that Heinz has recognized from their initiatives:

- Reducing complexity in product portfolios and raw material management
- Decreasing the proliferation of new materials and sourcing relationships
- Cross pollinating best practices among and between business units
- Streamlining the way Heinz brings new products to market

PLM concepts and benefits have been appearing in the annual reports of automotive, electronics, and other high-tech discrete businesses for some time. They are now starting to become more common in the Consumer Goods, Food and Beverage industries. Those that questioned the value of PLM for these industries thought that process industries were too “simple”. In fact, the unique requirements and inherent variability of process industries underscore the benefits of Product Lifecycle Management (PLM).

Heinz Recognizes a Business Need

In the mid-1990’s Heinz was managing their product specifications, formulas, and quality information in much the same manner as most companies. Unfortunately, what was common practice at that time was very far from “best practice”. Like most companies, their product information was stored in a variety of disparate systems, spreadsheets, text documents and paper forms. This inconsistency of information made it very difficult for any one organization within Heinz to have a single view of their products from raw materials to packaged goods, let alone share this information across organizations. Multiple business units, or affiliates, were recognizing this problem at a local level and began to look for solutions. Document management systems, extending ERP applications, and developing custom databases were but a few of the options being considered. Faced with this challenge, many of the affiliates turned to the global quality organization to help them find appropriate solutions to meet their needs.

In response, the Global Quality Assurance and Technical Affairs organization began developing criteria that the affiliates could use to find solutions. This informal initiative was intended to increase control of product information and improve product-related communication between departments at the local level. At the same time, Heinz began a transition to centralized organizations in North American and Europe and to global category management, which made it even more critical to be able to share product information across affiliate and geographic boundaries. These organizational changes provided the momentum to launch a formal initiative to address the management and sharing of product information as one global solution.

Heinz Takes a Global Approach

The Heinz corporate Quality Assurance and Technical Affairs group began to develop a strategy. Their initial goal was to find better ways to manage ingredients, formulas, and quality information.

The organization, under the leadership of Quality Director Debbie Crosby and then Heinz North America Quality GM Catherine Adams, researched the business problem and potential solutions. In order to get approval and sponsorship for the project, they developed a Return on Investment (ROI) model that highlighted the value of increased communication and better management of information. Hoping to justify the program, Ms. Crosby set off to garner an executive sponsor for the project and present her case.

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As expected, Ms. Crosby ended up in the office of William R. Johnson, Chairman, President and Chief Executive Officer of H. J. Heinz Company. Also as expected, she had to defend the ROI model that she and the team had developed. What was not expected, however, was that she needed to defend why the ROI wasn't *higher*. Mr. Johnson recognized that better management of product specifications could lead to a reduction of the number of specifications in use across Heinz. He further concluded that reduction of specifications would, in turn, lead to a reduction in inventory and also in the supplier base. In short, Mr. Johnson challenged the Heinz team to reach for a significantly higher ROI. With the continual squeeze that Consumer Goods manufacturers have been under to reduce product costs to the major retailers, this was suddenly a very strategic project.

With a new charter, the team set off on a project that today we would call a "PLM Program", what Heinz called "Vendor Improvement, Product Enhancement and Research", or "project VIPER".

Unique Considerations at Heinz

The VIPER team recognized the task in front of them was not a trivial one. Heinz was not traditionally organized to act globally. A project of this magnitude would be challenging even for a company where global initiatives were commonplace. The charter was to develop a common set of processes and tools that would address the different needs of many businesses. An early realization that the team made was that each market and each business is unique. A global solution would have to recognize differences in language, culture, regulatory environments, and ways-of-working.

Local needs had to remain a priority, or the initiative would fail. This type of thinking eventually led to deployment of the solution in 17 different languages, and required a flexible technical approach to accommodate for differences in processes where they made sense.

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Another demand placed on the system is a challenge faced by many companies in the food industry who try to deploy standard specifications and formulas worldwide. For many food companies, recipes vary in order to meet the tastes and preferences of local markets. Heinz Ketchup, the number one brand of Ketchup in the world, is allowed to vary in sweet and tart flavor notes to meet the preferences of local consumers in different countries around the world. The solution had to recognize that the same product could be produced from a slightly different recipe based on local tastes. Similar differences in manufacturing instructions are common between plants that produce the same product, where different vat sizes and cooking equipment require alterations to the formula to produce the desired product. Again, the solution had to be able to handle these alternates as concurrently available revisions for the same product, something many solutions did not effectively address.

Beyond localization and recipe management, the solution needed to support other requirements, such as:

- Robust workflow enablement and templating of specifications on a global basis
- Tight integration with a global vendor management system
- Supplier collaboration around product and material design
- Product design optimization tools that consider both least cost formulation and consumer preferences
- Support for a global new product development process allowing the review and approval of all introductions, deletions and changes affecting finished goods, formulas, ingredients, packaging and suppliers
- A comprehensive label management system

The team recognized that the fundamental differences in the way that the consumer goods, food and beverage industries produced their products would prove difficult to accommodate when identifying a solution. Many of the solutions that were available on the market were built with requirements based on high-tech, automotive and other “discrete” manufacturers that fabricate and assemble their products using a bill of material as opposed to a formula or recipe. This led to challenges, because the Heinz business had requirements to track specifications based on the variable characteristics of raw materials produced by “Mother Nature”. The solution would need to account for the fact that a tomato, for example, is very difficult to grow to exact sugar content, acidity, color, density and percent moisture. In order to allow for proper comparison of specifications, they would need to be developed in a common way globally.

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Unique Technical Considerations

Finally, Heinz recognized technical considerations that were unique to their situation. Heinz consists of a large number of businesses that have a fair amount of autonomy. In addition, like many companies in their industry, Heinz works with a large network of co-packers that needed access to some portions of the information. Heinz faced a dilemma. From one perspective, Heinz wanted to be able to share product information across departments, with global affiliates and even with suppliers so the information had to be readily available over the Internet. From another perspective, the proprietary nature of the formulas meant that the information also had to be tightly controlled. “Nobody gets the ketchup formula, we are extremely serious about that” Ms. Crosby said. The combination of these seemingly conflicting requirements meant that significant emphasis would need to be placed on a security model that would allow individuals ready access to the information they needed, while concurrently ensuring that the individuals only had access to the information they were allowed to see based on the needs of the business. The frequency of mergers and acquisitions in the industry further intensified the need for robust security.

Heinz Selects an Industry-Focused Solution

Experience has shown that business change is best adopted and more sustainable when accompanied with the appropriate software technology. Heinz reviewed numerous software solutions including both custom and packaged software products, and found that most solution providers did not understand the unique needs of consumer goods, food and beverage industries. In addition, the software products reviewed were not built with the flexibility to handle varying processes across businesses and geographies, and did not meet the language and culture requirements of a global business like Heinz. Heinz wanted a software partner that understood their business and that would be responsive to their needs. Heinz knew from past experience that key people at Prodika had worked with Tricon and had successfully delivered a similar solution. Based on that experience, Heinz evaluated the Prodika solution and determined that it could meet Heinz's unique needs for flexibility, global capabilities and industry-specific functionality. Heinz chose Prodika as the enabling technology partner for VIPER and standardized on the Prodika PLM solution. Conversations with Heinz employees show significant satisfaction with the decision.

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In fact, the Chairman, President & Chief Executive Officer of H.J. Heinz Company, William R. Johnson, highlighted the importance of the partnership, stating “*We are using Prodika globally to help design new business processes and communicate information more effectively. Prodika is a critical component of our strategy to improve our management systems and ways of working.*”

The Prodika Solution

Through the VIPER initiative, Heinz took full advantage of the Prodika solution, leveraging the full suite applications, customizing each component to meet their specific requirements, and in some cases, calling on Prodika to develop new features based on Heinz's global priorities. The resulting solution includes a number of complimentary applications:

- Global Specifications Management (GSM), capturing the entire product genealogy from trade items to ingredient and packaging in all languages, cultures and currencies
- Supply Chain Relationship Management (SCRM), with vendor master, approved vendor list and vendor scorecarding
- New Product Development (NPD), accelerating time-to-market for new or improved products
- Design Workbench (DWB), enabling the design, optimization and value engineering of formulations
- Product Quality Scorecard (PQS), managing product performance and compliance data
- Labeling, Marketing and Packaging Management (LMP), developing and approving new packaging designs
- Content Synchronization and Syndication (CSS), enabling data synchronization of complete and accurate trade item information to business partners and data pools

Heinz Adopts a Pragmatic Deployment Approach

Recognizing the challenges in front of them, Heinz paid close attention to managing the change effort. New business processes and technology do not add value unless they change the way that business is being done. In order to ensure that the initiative was successful, the VIPER team phased the rollout of the solution, starting with small projects to implement the new processes and software at four affiliates. The initial target for these projects was known as “GSM”, or “Global Specification Management”. The initiative called for all ingredients, packaging and traded units to be tracked in VIPER and made visible to all interested parties—including manufacturing, logistics, production planners, inventory control and others. This project was followed closely by a highly successful label management initiative in Europe. The Heinz approach was to prove the value early in smaller projects on a path towards incremental rollout to meet the larger strategic goal. The approach was effective, as affiliates that were not included in the early initiatives began requesting to be the next in line to receive the solution, creating a “pull” for the solution as opposed to a corporate “push”.

Because of the significance of the change and the autonomous nature of the affiliates, the VIPER team made sure that their strong executive sponsorship remained visible throughout the project. While the initial implementations started small, Heinz had big plans. Heinz CIO George Chappelle had a clear vision that all product-related information in Heinz, from raw ingredients to finished product, would be managed by VIPER.

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Further, VIPER was intended to cover the whole product lifecycle from ideation, through new product development and introduction, and then all the way to retirement and removal of associated packaging and ingredients. Heinz held “town hall” meetings to highlight both the goals of the initiative and the success of the implementations, and made sure that their training covered not only the software, but also the need for change and the business processes required.

Meeting the Initial Goals

Heinz has already achieved significant benefits from the VIPER initiative, and is continuing to look to VIPER for additional strategic value. Benefits of the project to date fall into numerous categories, but each is the result of better management and communication of product-related information and business processes. The benefits from the Heinz project are noteworthy enough to be mentioned numerous times in the Heinz 2003 Annual Report. According to the report, “Better tracking and management of product specifications and vendor relationships are expected to greatly reduce complexity and cost throughout the supply chain. SKU reduction should enable Heinz to lower inventories, improve manufacturing efficiency and apply resources more effectively against the growth of its power brands.”

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Some of the benefits are a direct consequence of improved specification management. Heinz can now identify the connection between a product, the ingredients it uses, and the suppliers across the business in seconds.

“Prodika has greatly improved our raw material, supplier, and product intelligence. Information which used to take weeks to gather is now a natural extension of our day-to-day business processes” said Deb Crosby. This information is being used to bring products to market faster, because affiliates can now access product information from other parts of Heinz instead of spending precious time and resources reinventing the wheel. For example, an affiliate that wants to bring a new product to market may be able to find a similar product in development or already on the market that can be used as a starting point. At a minimum, the affiliate can probably reuse existing raw material specifications and identify suppliers that are already in use by Heinz. Another example of improved time to market is in development of product labels. Traditionally, labeling requirements weren’t addressed until the specifications were completed because there was no visibility to the recipe until that time. By sharing product specification with Regulatory Affairs earlier in the process through VIPER, Heinz has been able to reduce the process from 45 days down to only 7—a substantial improvement in a consumer environment that increasingly rewards new and innovative products.

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Heinz has also leveraged VIPER to reduce costs, both in the form of increased productivity and decreased product cost. Given the continual margin pressure that consumer goods companies face, this is a highly strategic benefit. One example of this comes from reducing redundant specifications. During the VIPER project, Heinz made a call to 40 vendors to determine if the vendor sold the same product to multiple Heinz companies under different item numbers. From these 40 vendors, Heinz found 140 items that were sold to different plants under different SKU’s. The consequence of this is that Heinz did not have visibility to the volumes that they were purchasing of a particular item to help them leverage better pricing from the vendors. Handling multiple specifications for the same item can also lead to excess inventory costs, not to mention the inefficiency of duplicated administrative work. Because of disconnected processes and information, it was relatively easy to accumulate redundant specifications. For example, Heinz Europe counted over 30 specifications for unflavored salt—which have now been reduced to less than 10.

Costs have also been reduced as the result of developing more optimal formulas. Developing least cost recipes for food and beverage can be very complex, because the same end product can often be produced in a variety of different ways and with different ingredients. Formulas must be manipulated to use the lowest cost ingredients, while at the same time meeting the consumer preferences for the product. Heinz now uses VIPER to adjust recipes and instantly see the impact that the change would have on cost, the nutrition information on the label, and the ingredients list to better understand the impact that the change would have on the consumer purchasing experience. Simply getting a good cost estimate sooner in the process has provided strategic advantages when bringing new products to market.

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Heinz has gained tremendous efficiency advantages from VIPER as well. Heinz can now track supplier certifications, corrective action reports, plant locations, products and specifications instantly. Batch sheets can be delivered directly to the kitchens electronically or in print format. Product developers can search for an existing product specification or product instead of starting from scratch. New product development teams work on common processes and workflows that also accommodate local requirements. Product development decisions are captured along with the reasons behind them, so others affiliates can leverage past product development investments within Heinz. *“VIPER has changed the face of the way we do business at Heinz,” Deb Crosby summarized, “I never thought we would get here—but it’s here”.*

Additional Benefits – Satisfying Retail Customers

The VIPER initiative has also produced other benefits. The initiative has resulted in a single source of trusted product information that can be accessed across Heinz.

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This asset, sometimes called a PLM Platform or PLM Infrastructure, has proven very valuable. By identifying a vision that all product-related information would be in VIPER, Heinz has developed a strategic capability to leverage product information internally and in their supply chain. The value of this capability became apparent when Heinz addressed the demands from their retail customers to synchronize product catalogue data.

Major retailers began requesting that Heinz provide product information through Transora, UCCnet and other exchange platforms such as Global Net Exchange and the Worldwide Retail Exchange. Major consumer goods companies like Heinz have to address these demands proactively in order to maintain good relationships with the retailers on which they rely for access to their customers. As many in the industry know, these requests are made for the improvement of the overall supply chain, but can place a significant burden on the consumer goods companies to comply. Heinz, one of the founding members of Transora, was no exception. Heinz began an initiative to provide product data through Transora.

Heinz, like other major consumer goods companies, faced numerous challenges in synchronizing product data with the exchanges. Syndication of product data is not a trivial task. One of the key challenges that many companies face goes beyond the physical connectivity of moving data in the proper format—data accuracy. Many companies face a significant challenge in defining where they will source the information to send to the exchanges. Because product data resides in multiple systems, including multiple ERP implementations and instances, companies must decide which source of data they will utilize in the synchronization effort. Fortunately for Heinz, the VIPER platform had already been designated as the appropriate source of all product-related data. Some call this the product “system of record”, or the “one version of the truth”.

“The requirements for data synchronization are different today than they were two years ago, and will probably be different two years from now”, Mr. Heil said, “but we feel we are already ahead of requests from the most advanced retailers such as Wal-Mart”.

Heinz used VIPER as the platform for their product data, and utilized capabilities from Prodika to synchronize with the exchanges. “Although this was not one of the original charters for VIPER, we found it relatively easy to syndicate our product data” said Philip Heil, Heinz Global Program Manager. Based on conversations at many consumer goods conferences, this has not been the case of the majority of consumer goods companies. To make matters more difficult, product syndication is an evolving market and retailers are increasingly demanding compliance with not just Transora and UCCnet, but other exchanges as well. “The requirements for data synchronization are different today than they were two years ago, and will probably be different two years from now”, Mr. Heil said, “but we feel we are already ahead of requests from the most advanced retailers such as Wal-Mart”.

By leveraging the unified, trusted product data in VIPER, Heinz was able to meet demands that for some consumer goods companies have proven to be very costly and disruptive. Companies like Heinz have to be customer-centric, but to serve their customers they rely on their products. By investing in better management of product data, on a global level, Heinz will undoubtedly find other benefits from the VIPER solution over time.

Key Observations

- Heinz has been successful because they focused on the business problem first, and then found technology to help.
- Heinz had top-level support for the VIPER project throughout the project, and kept that support visible through town hall meetings and other communications.
- Heinz took a pragmatic approach to the rollout. They had a vision for the end state they wanted to achieve, and put in place a step-wise plan to achieve it by focusing on providing incremental value.
- Heinz invested in training their employees not only on the solution, but also the business problems that they were trying to address and why they were important to Heinz.
- Heinz found a partner that knew their industry. As Heinz's Phil Heil put it, "it helps when both sides have a view of standards and best practices in the industry, when there is guidance on both sides."
- Heinz developed a vision for a comprehensive product knowledge management system – and has stuck to it.
- Heinz has realized initial value, and is now finding ways to further leverage their standardized product data and processes to uncover new areas of value.

Summary

Heinz entered this century with a myriad of methods and systems to manage their product information, their new product development processes, and their syndication of products to the trade. Through their vision, Heinz now sits with a set of standardized, best practice business processes and a strategic platform to manage their product information needs today and into the future.

About the Author

Jim Brown has over 15 years of experience in management consulting and application software focused on the manufacturing industries. Jim is a recognized expert in software solutions for manufacturing and has broad experience in applying enterprise applications such as Product Lifecycle Management, Supply Chain Management, ERP and CRM to improve business performance. Jim is a frequent author and speaker on applying software technology to achieve tangible business benefits.

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