

PLM Is An Industry Affair - Or Is It?



Featured Author - Jim Brown - January 13, 2003

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Introduction

Often it's the simplest questions that have the most complicated answers. What appears to be a simple question, "Does industry matter when looking for a Product Lifecycle Management (PLM) solution?" leads to an interesting discussion instead of a simple answer. If you are looking for the short answer, the answer is "Absolutely yes!" But the answer is also "Probably not." The correct answer to whether vertical industry needs should play a significant role in a PLM software selection should not be answered with a simple answer but with a series of questions in return.

The appropriate first responses to the question are: "What are you trying to accomplish with your PLM initiative?" "What components of a PLM solution are required to support that need?" "What unique requirements does your industry have in those solution areas?", "What types of products are you managing?", "What does your supply chain look like?", "Have you defined your PLM Program to prioritize and sequence your software needs?", see the [The PLM Program An Incremental Approach to the Strategic Value of PLM](#). These questions must be answered before the solution criteria can be evaluated.

What do you mean by "PLM"?

Before any software selection it is important to identify and prioritize the requirements of the solution. This is just as true for PLM as it is for ERP, Supply Chain, CRM and other solutions. In PLM, however, the documentation and prioritization is even more important because of the large range of solutions that are labeled "PLM". It is also difficult because there are no full suite PLM solutions available. Solutions support features from production-focused Technology Transfer to enterprise-level Ideation and Portfolio Management, but nobody covers all of the needs.



If we take Technology Transfer and Portfolio Management as examples, we see two extreme cases. Technology Transfer involves the translation of product specifications and production instructions to the plant, ideally including direct integration to automated production equipment. Clearly production equipment for the fabrication of a surface mount circuit board differs from the equipment required for the production of a machined component, which also differs from the equipment necessary to synthesize a specialty chemical. Naturally, then, the Technology Transfer functionality differs significantly by industry, and even by product families within an industry.

Portfolio Management, on the other hand, involves comparing the relative commercial value of different products or projects. Because the application is dealing with commercial terms as opposed to the details of the product, the required functionality, arguably, is the same whether the projects are for the introduction of a new electronic organizer, a new after market product for an automobile or a line extension for a branded beverage. That is not to say that industry templates and expertise are not valuable, as we will discuss below.

Who will be using the solution?

In answering the original question of industry requirements for PLM, a useful question to ask is what types of people will be using the product? Different roles within an enterprise will typically require (and expect) a different level of industry support. For example, Marketing and Sales personnel looking to enter projected sales volumes for a new product, or that manage the evaluation of the product for launch readiness are probably not expecting direct support for their industry. On the other hand, a process engineer will likely reject a solution as unworthy if it doesn't fit the types of production required.

One counterintuitive example is that accounting typically requires a very good fit with industry needs. One of the key challenges in developing new products and gaining more value from older products is projecting the true cost of the product. Product costing varies dramatically from industry to industry as experience has shown in ERP applications.



How complicated are the products to be managed?

Even within a particular industry, a company may have a tendency to produce a variety of highly complex products and/or simple products. The products may be produced in a single manufacturing facility, or they may be produced simultaneously in multiple facilities. In general, the more complicated the product and the production scenario the more differentiated the industry requirements will be.

An interesting side-note to the discussion on product complexity is that sometimes even the simplest products have intricacies. Bottled water, for example, appears to be a relatively simple product. The chemistry of the product is not complex and there is very little advanced manufacturing capability required to produce it. A consumer-oriented product such as a beverage, however, often has very complex packaging requirements in order to attract the attention of the consumer and to meet the demands of the retail supply chain. And small packaging design changes can alter the effective fill rate and even the lines capable of filling the product. So sometimes even seemingly simple products have complexity.

Who is going to help implement the solution?

As mentioned earlier, product requirements for some PLM functionality may be easily accommodated by cross-industry, horizontal solutions. The application of that tool in a particular industry, however, may require services to be provided by consultants knowledgeable in the industry. If we take Project Management as an example, it is seemingly an obvious conclusion that the software to manage the introduction of a new luxury boat model could be the same as that the software required to launch a new over the counter drug. Both projects require scheduling and tracking detailed tasks, loading of resources, dependencies between tasks, and other common project management requirements. Producing a Gantt chart for the development of a new home appliance really isn't very different from producing a Gantt chart for introducing a new heat resistant ceramic.



While the project management software may not be industry differentiated, the contents of the project, and the tasks required, are very different. Industry templates for stage-gate acceptance criteria will be very different for a regulated pharmaceutical product than the acceptance criteria for a new shock absorber. The overall PLM process, in fact, can vary widely from industry to industry. Industry knowledgeable, experienced resources armed with industry solutions and/or industry templates may also be important criteria in the evaluation.

What are the "fatal flaws" for your industry?

Every industry has unique characteristics. Some of the differences come from regulatory needs in the trade of the products of the industry, such as the need to track the country of origin for components of an automobile. Other differences come from the physical nature of the material itself, such as the need to adjust ingredient input quantities based on the potency or sugar content of an agricultural product. Still others are based on traditions and legacy of the industry, such as the need to produce and sell paper rolls by the foot, but to price them by the pound. Regardless of the history of the requirement, these differences must be supported by the software application in order for the software to support the business effectively.

These unique industry characteristics often drive additional, or even conflicting requirements for the software applications when compared to the requirements of other industries. When these industry characteristics are not addressed in the core design of the software application, they can often be difficult or impossible to address without significant software customization or user workarounds. For more information on the concept of "fatal flaws", see [Find The Software's Fatal Flaws To Avoid Failure](#) .

Before selecting a PLM application, make sure to understand the fatal flaws for PLM in that industry.

Conclusions

When evaluating the applicability of a PLM solution, it is crucial to define the problems to be addressed in advance. Depending on the needs to be addressed by the PLM solution, industry may play a critical role. As a general rule, the closer the PLM solution gets to the design and production of the product itself, and the more complicated the product, the more industry will play a role.

Software selections to support PLM initiatives that will come in close contact with the production of the product should absolutely consider the unique needs of their industry, particularly the industries "fatal flaws". While in the final evaluation a horizontal application may meet the needs just as well as a vertically focused application, the evaluation of those criteria should not be left to chance. And don't forget that each PLM initiative should be taken as an incremental step in the PLM Program, see "[The PLM Program An Incremental Approach to the Strategic Value of PLM](#)", so that requirements beyond today's needs may need to be evaluated as well.

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 knowledge of applying ERP, Product Lifecycle Management, Supply Chain Planning, Supply Chain Execution, and e-business applications to improve business performance. Jim served in executive positions for software companies specializing in PLM and process manufacturing solutions before starting his consulting firm, **Tech-Clarity Associates**.



Jim can be reached at jim.brown@tech-clarity.com.