Tech-Clarity

How Top Performers Implement, Operate, and Maintain PLM Integration

Best Practices for Integrating Product Lifecycle Management

Table of Contents

*This summary is an abbreviated version of the report and does not contain the full content. A link to download the full report is available on the Tech-Clarity website, www.tech-clarity.com. If you have difficulty obtaining a copy of the report, please contact the author at jim.brown@tech-clarity.com.

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Executive Overview

Product Lifecycle Management (PLM) helps manufacturers in many ways ranging from operational efficiencies to top-line financial improvement. It improves business performance in multiple dimensions including increased revenue, reduced product cost, and decreased product development cost. But PLM is just one of many systems in the engineering and enterprise software ecosystems, and provides greater value when it shares data and connects workflows with other software. As reported in Product Lifecycle Management Beyond Managing CAD, "*Top Performers are much more likely to integrate PLM with a host of other systems.*"

We surveyed over 150 companies to understand their PLM integration strategy, processes, and technical enablers in order to understand how proper integration can extend PLM value. The findings indicate that the vast majority of manufacturers view PLM as "Strategic" or "Important." It also finds that many believe that PLM integration will become even more strategic (and challenging) as IoT initiatives progress.

Top Performers are more able to implement, operate, and maintain PLM integration in an agile, cost-effective way.

In order to understand how companies get the most business value from PLM integration, we identified manufacturers that were gaining the largest operational benefit from their PLM implementation, the Top Performers. These leaders achieve significantly better than average PLM business benefits. We analyzed what these companies do differently related to PLM integration in order to offer advice to poorer performing companies. The analysis determines that Top Performers in gaining the benefits from PLM:

- Are more likely to view PLM integration as strategic
- Integrate PLM to more design tools and more enterprise applications
- Integrate PLM to more advanced tools and applications
- Are more able to implement, operate, and maintain PLM integration in an agile, cost-effective way
- Experience fewer operational issues including:
    - Needing to look for data in multiple systems
    - Duplicate data entry
    - Data inconsistency across systems

We also discovered that these Top Performers take different approaches to integrating PLM, leveraging a variety of techniques but opting toward more advanced, maintainable techniques like a hub and spoke approach. Read on to find out more about PLM integration and what sets the Top Performers apart across the PLM Integration Lifecycle spanning integration implementation, operation, and maintenance.

Conclusion

PLM helps companies improve product innovation, product development, and engineering efficiency and helps enhance communication across the enterprise and the supply chain. Improving PLM integration helps companies achieve the benefits PLM has to offer, making it a highly strategic investment. The level of importance, along with the level of complexity, will only increase as companies move to smarter, more connected products and the IoT.

> *PLM integration helps companies achieve the benefits PLM has to offer, making it a highly strategic investment.*

Top Performers, those that get the most benefits out of their PLM systems, are more likely to view PLM integration as strategic. They integrate more design tools and enterprise applications with PLM, and integrate PLM to more *advanced* tools and applications. They also integrate more data, including more information that spans the enterprise and the supply chain. The leads us to the conclusion that better PLM integration is simply good business.

> *Top Performing companies are more able to implement, operate, and maintain PLM integration in an agile, cost-effective way.*

Top Performers take different approaches to integrating PLM, employing a variety of tools but more likely including adaptable techniques like a hub and spoke approach that provides benefits across the PLM Integration Lifecycle. The result is that these Top Performing companies are more able to implement, operate, and maintain PLM integration in an agile, cost-effective way and experience less need to look for data in multiple systems, perform less duplicate data entry, and find less data inconsistency across systems.

Recommendations

Based on our experience and the research for this report, Tech-Clarity offers the following recommendations:

- Manufacturers should integrate PLM with a broader number of enterprise applications and design tools
- Companies should integrate with more advanced systems, including those that extend beyond Engineering into the enterprise and the supply chain
- Companies should use a variety of integration techniques depending on the specific solutions and connectivity methods available, leveraging more advanced

approaches such as hub and spoke when practical to provide more agility across the PLM Integration Lifecycle

- Manufacturers should consider outside expertise to fill the PLM integration knowledge gap
- Companies should focus integration plans and efforts beyond the initial implementation to optimize across the entire PLM Integration Lifecycle

About the Author

Jim Brown is the President of Tech-Clarity, an independent research and consulting firm that specializes in analyzing the business value of software technology and services. Jim has over 20 years of experience in software for the manufacturing industries. He has a broad background including roles in industry, management consulting, the software industry, and research. His experience spans enterprise applications including PLM, ERP, quality management, service lifecycle management, manufacturing, supply chain management, and more. Jim is passionate about improving product innovation, product development, and engineering performance through the use of software technology.

Jim is an experienced researcher, author, and public speaker and enjoys the opportunity to speak at conferences or anywhere he can engage with people with a passion to improve business performance through software technology.

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About the Research

Tech-Clarity gathered and analyzed over 150 responses to a web-based survey on best practices for PLM integration. Survey responses were gathered through direct e-mail, social media, and online postings by Tech-Clarity, Razorleaf, and ConnectPress.

The respondents were comprised of almost one-half (49%) who were manager or director level, about one-third (32%) who were individual contributors, with the remaining 19% included representation from VP or executive levels.

The respondents represented a mix of company sizes, including 23% from smaller companies (less than $100 million), 22% between $100 million and $1 billion, 24% between $1 billion and $5 billion, and 19% greater than $5billion. 12% did not disclose their company size. All company sizes were reported in US dollar equivalent.

The responding companies were a good representation of the manufacturing industries, including those gaining 10% or more of their revenue from Industrial Equipment (35%), Aerospace and Defense (19%), Automotive and Transportation (18%), Consumer Products (12%), Life Sciences / Medical Device (12%), Electronics / High Tech (9%), and others including CPG, Building Products, Federal Government, Energy / Utilities, and others. Note that these numbers total greater than 100% because some companies indicate they're active in more than one industry.

The respondents reported doing business globally, with companies gaining 10% or more of their revenue from North America (89%), Western Europe (40%), the Asia-Pacific regions (40%), Eastern Europe (20%), Latin America (25%), and Africa (8%). Note that these numbers total greater than 100% because some companies indicate they're active in more than one geography.

Respondents included manufacturers as well as service providers and software companies, but responses from those determined not to be directly involved in designing or manufacturing products (including software vendors and consultants) were not included in the analysis. The majority of companies were considered to have direct involvement in designing and manufacturing and the report reflects their experience.

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