Tech-Clarity

PDM Buyer's Guide

## *Ensuring Maximum Value from Product Data Management*

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Introducing the PDM Buyer's Guide

Product Data Management (PDM) is an important tool to help manufacturers overcome the complexities of designing, developing, producing, and supporting today's products. Manual and ad-hoc approaches such as shared folders, FTP, Dropbox, box, and hard drives are simply not good solutions to manage critical, complex product information. These approaches may work for very small organizations, but quickly falter as organizations grow and must share information beyond a few core engineers. These techniques also fail to manage data relationships and complex file structures common to 3D CAD systems. PDM systems are purpose-built to address these issues. PDM is a structured, collaborative solution that helps manufacturers control, access, and share crucial product data. Selecting the right PDM system for your business has a large impact on productivity, product success, and profitability.

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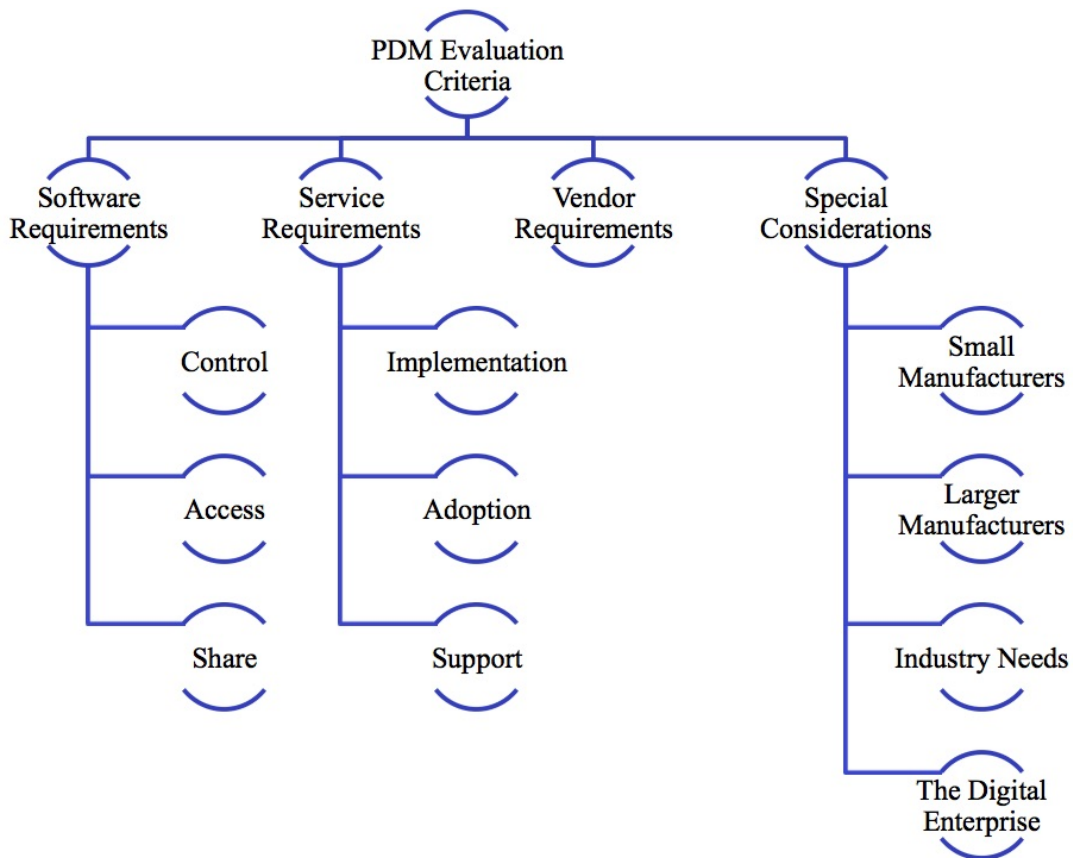
Figure 1: PDM Evaluation Framework

The PDM Buyer's Guide is a reference tool to provide direction about what to look for when selecting a PDM system for your company. The guide is composed of four sections covering software functionality, service requirements, vendor attributes, and special company considerations (Figure 1). Each of these sections includes a checklist with key requirements to investigate when selecting PDM software. The guide focuses on common requirements that form the foundation of PDM for manufacturers:

- Getting files under control so people can find the right revision with confidence
- Making sure concurrent updates don't overwrite each other to avoid "the last save wins" syndrome
- Making information easily accessible and consumable to teams outside of Engineering for reviews and downstream processes
- Safely sharing information with customers, partners, and the supply chain
- Ensuring intellectual property (IP) is captured and securely accessible regardless of who stored it
- Getting away from complicated shared drive structures that lead to errors
- Making sure people don't manufacture or purchase against the wrong drawing
- Providing "one version of the truth" versus multiple copies of designs

The guide and associated checklists include product, infrastructure, implementation, service, and business requirements – all of which impact the benefits received and total cost of ownership (TCO) of PDM.

Beyond these basics, there are special considerations for smaller companies and for the largest of enterprises. There are also special considerations for some industries. The guide addresses these and then goes beyond software functionality to focus on the entire experience of owning and operating the solution. The guide and associated checklists include product, infrastructure, implementation, service, and business requirements – all of which impact the benefits received and total cost of ownership (TCO) of PDM.

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The PDM Buyer's Guide is not intended to provide an all-encompassing requirements list. Instead it covers the high points that manufacturers should look for in a PDM system. Think of this as a "PDM litmus test" to see if a solution is a good high-level fit for your business before spending significant time and effort analyzing detailed features and functions.

Although the checklists focus only on PDM requirements, it's important to consider more than your current needs when choosing a system. Many companies eventually want to

grow beyond basic PDM. These companies start with PDM and evolve though a maturity process to a more complete Product Lifecycle Management (PLM) environment. PLM extends the core PDM foundation to support more product development and engineering processes, manage a richer view of products, include more people in product development, and support processes further upstream and downstream from Engineering in the product lifecycle (Figure 2).

In addition, PDM is becoming the core 3D foundation for the digital enterprise, supporting advanced initiatives like the Internet of Things (IoT), model-based design (MBD), and three dimensional augmented / virtual reality. Modern PDM / PLM systems should enable a product digital twin that can serve as the central foundation on which to consolidate (or view) a variety of product-related data captured in systems across the enterprise. It's important to consider these needs when selecting your software and ensure that your solution has the capability to expand with your growing needs.

Figure 2: Four Dimensions of PLM Expansion

Recommendations

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

- Identify and weigh PDM requirements based on company needs, company size, industry, and any unique company needs
- Use high level requirements such as the ones in this guide to evaluate solutions based on business fit before engaging in detailed evaluations
- Consider using more simple, commodity technical solutions like cloud or managed services solutions for smaller companies, companies that wish to move quickly, or those with limited IT resources
- Take user adoption into account, including simplified access and increased visualization for non-engineering resources

- Consider using more full-featured, scalable solutions for larger organizations that have more demanding process and scalability needs and can afford the IT resources required to support capabilities such as site synchronization
- Take into account long-term business and process growth needs including digitalization and IoT initiatives
- Consider the potential to expand to a more capable PLM system when choosing a PDM system, but start small and get value along the way during implementation

About the Author

Jim Brown is the President of Tech-Clarity, an independent research and consulting firm that analyzes the business value of software technology and services. Jim has over 25 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 solutions including PLM, ERP, quality, service, manufacturing, supply chain management, and more. He is actively focused on researching new initiatives and technologies including cloud computing, digitalization, smart manufacturing, AR, VR, and the IoT. Jim is passionate about improving product innovation, product development, and engineering performance through digitalization and 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 digitalization and software technology. Jim can be reached at jim.brown@tech-clarity.com. You can read additional research, watch Tech-Clarity TV, or join the Clarity on PLM blog at www.tech-clarity.com. You can also follow Jim on Twitter at @jim_techclarity, or find Tech-Clarity on Facebook as TechClarity.inc.

*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.