COMMENTARY

CIMdata®

# The Business Impact of Not Implementing PLM

### Key Takeaways

Companies without a modern, well-integrated PLM strategy and solution struggle to manage end-to-end product development efficiently in a timely manner.

Companies that delay implementing PLM miss out on streamlining their product development processes and operational efficiency. This leads to widening gaps between their strategic vision and actual capabilities, higher operational costs, increased time-to-market and lower product quality and innovation.

Company leadership without a PLM solution often experience delayed access and visibility to critical product development data for agile decision making to adapt business strategies.

Using a PLM solution enables companies to manage complex product development, production, and service across multiple teams providing opportunities for improved efficiency and collaboration to achieve faster product development cycles, better decision making, and the innovation required to meet changing market and customer demands.

## Challenges of Product Development without PLM

Companies without a modern PLM solution face significant productivity challenges. In the absence of a unified system, collaboration is inefficient, and data usage is fragmented. Workers rely on manual, error-prone processes, wasting time and money while diminishing product quality. Without an integrated PLM strategy, organizations miss the benefits of digitalization that streamlined PLM processes can deliver.[1]

### Siloed Data and Configuration Management Issues

Companies that fail to implement modern PLM environments suffer from siloed data and poor configuration management. As companies grow without implementing PLM, departments and functional groups are often left to manage their own information independently. This fragmentation results in workers using disparate solutions, including file folders and project shared drives, individually created and maintained spreadsheets, and email-based collaboration, which wastes time, hampers coordination, and leads to poor configuration management practices. These inefficiencies raise the risk of costly defects and reduce cross-functional coordination.

[1] Research for this paper was partially supported by Autodesk.



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## Time Wasted On Non-Value-Added Tasks

Without a PLM solution, employees waste time searching for up-to-date information across multiple sources such as shared file folders and individual storage systems. This lack of centralized, real-time data access not only impacts productivity but affects an organization's decision making and ability to respond quickly to changes, whether it's customer requirements, internal engineering, or market dynamics.

## Manual Processes and Data Entry

Failure to implement PLM-managed processes forces many tasks that should be automated, such as updating BOMs, tracking revisions, and managing approvals, to be done manually. This not only increases workload but also raises the risk of human error. Inconsistencies in BOMs across engineering, manufacturing, procurement, and service teams are common, complicating material planning and production. Without PLM integration with systems like ERP or MRP, manual data entry leads to delays, rework, and waste in manufacturing.

## Unstructured Change Management

Companies without PLM must track design and manufacturing or supply chain changes in various disconnected systems. This is cumbersome and inefficient, forces many more meetings, is unproductive and often leads to process delays, poorer product quality, and unnecessary rework in design and production.

## Limited Leadership Visibility

Companies without PLM lack real-time visibility and transparent reporting. PLM can provide access to automated, real-time dashboards that drive collaboration, information-sharing, decision-making, and outcome documentation.

## Lack of a Digital Thread

All companies have end-to-end processes, but those without PLM are more inefficient because processes are disconnected from the data they need, not traceable, and unable to adapt to change. Without a digital thread—a seamless flow of data and decisions—organizations must rely on fragmented, labor-intensive workflows that drive up costs and hinder their ability to innovate, maintain quality, and adapt quickly. These inefficiencies impact profitability; product quality; and responsiveness to market shifts, customer needs, or regulatory demands.

## Supplier Communication Gaps

Supplier collaboration is also hindered without PLM, as companies often struggle to share up-to-date design data, specifications, RFQs, and other product documentation throughout their value chain. Without access to the latest product data, suppliers may work from outdated or incomplete information. Data exchanges via email or FTP are challenging to maintain and sync with real-time changes, creating misalignment, inefficiencies and product defects.

## Cost of Poor Quality

Without integrated PLM and quality management systems with a common data thread, managing compliance and quality becomes labor-intensive and error-prone, increasing the risk of costly defects. Lack of real-time visibility into quality issues drains resources, diverting teams from high-value tasks like product development. Persistent failures in compliance and quality can harm productivity, damage brand reputation, erode customer trust, and threaten revenue.

### Inaction is Action

Delaying PLM implementation, often due to cost or disruption concerns, allows inefficiencies and missed opportunities to persist, widening the gap between strategy and capabilities. This inaction increases risks, stifles innovation, and leaves companies trailing competitors who have adopted PLM. Each delay makes alignment with long-term goals harder, driving up costs and harming competitiveness and customer satisfaction.

What is often missing in companies that suffer from these issues and others is a well thought out PLM strategy. Specifically, there is a lack of understanding of enterprise-wide impact and value their organization will receive as the result of a well-planned PLM investment.

## Building the Business Case for PLM

PLM delivers significant business value by managing products throughout their lifecycle, from concept to end-of-life. It digitalizes the product lifecycle, integrating processes and data across the enterprise to enhance efficiency, collaboration, and responsiveness. CIMdata highlights PLM as a foundation for aligning product data and processes with strategic goals, driving faster innovation, cost reductions, improved quality, and competitiveness.

Building a strong business case for PLM begins with identifying the key challenges it can address to bring tangible value to the organization. While many of these challenges are discussed above, it's crucial to establish a clear connection between PLM objectives and how PLM will support overarching business goals—such as improving product quality, reducing costs, decreasing time-to-market, and enhancing customer satisfaction. These links are vital for persuading stakeholders of the return-on-investment (ROI) and strategic advantages PLM offers.

CIMdata emphasizes aligning the PLM roadmap with organizational KPIs to ensure measurable business value. By tying PLM goals to KPIs, companies can track progress, justify investments, and secure cross-functional support, enabling focused, impactful, and adaptable implementations that maximize ROI.

### Return on Investment

To justify the investment in PLM, businesses must demonstrate how its implementation will deliver measurable value. CIMdata advises developing a ROI model with realistic metrics and predictable costs to highlight the benefits of PLM.

Companies should start by addressing a few high-impact challenges. Using a proven PLM ROI framework, CIMdata has identified benefit ranges across hundreds of areas based on real-world data. The following are areas with the low and high range of the benefits that CIMdata sees achieved from its engagements with industrial companies:

- Finding information—75% to 90% reduction
- Increased productivity—10% to 20% increase
- Product development costs—25% to 40% reduction
- Engineering change process—10-70% reduction
- Design review process—50% to 80% reduction
- New part numbers—5 to 15% reduction
- Design errors—10 to 25% reduction
- Time-to-design—15% to 70% reduction

Success requires aligning PLM with people, processes, and technology. Prioritizing user needs and organizational culture ensures adoption and boosts productivity. Streamlining and redefining processes through PLM eliminates inefficiencies, enhances collaboration, and drives measurable business value.

### Costs

Deploying a PLM solution requires careful consideration of all associated costs to ensure it delivers measurable benefits. These costs typically include licensing and infrastructure implementation and training, administration (e.g., adding users, adjusting roles), upgrades, data migration, and governance.

Data cleansing and migration, often underestimated, are critical investments. Poor-quality data undermines the benefits of PLM, such as seamless collaboration, traceability, informed decision-making, and the future use of AI. Addressing data quality upfront prevents bigger issues later.

Organizational Change Management (OCM) and robust data governance are also essential to managing the transition to PLM effectively and securing stakeholder buy-in.

Finally, as PLM evolves, businesses should plan for costs related to future upgrades, system expansion, and testing to maximize long-term value.

### Considering Cloud PLM

Adopting a cloud-based PLM solution offers numerous advantages for businesses looking to streamline product lifecycle management. One key benefit is scalability: cloud-based PLM grows seamlessly with the business, eliminating the delays, costs, and complexities tied to procuring and deploying additional servers for on-premises solutions. It also lowers upfront costs by removing significant capital expenditures on hardware, IT maintenance, and system updates.

Another advantage is accessibility, as cloud PLM allows global teams to access product data and collaboration tools anytime, anywhere, fostering improved communication and coordination across distributed teams. Moreover, enhanced security features built into cloud solutions protect sensitive product data with robust encryption, multi-factor authentication, and compliance with industry standards, reducing the risk of data breaches and ensuring that businesses remain secure.

Additionally, faster deployment is often achievable with cloud-based solutions, enabling organizations to get up and running quickly and benefit from accelerated update cycles. Finally, automatic updates from cloud vendors ensure businesses always operate with the latest features and security measures, eliminating operational disruptions linked to manual upgrades. This level of efficiency and security is difficult for in-house IT teams to replicate. These benefits make cloud PLM a strategic enabler for modern businesses looking to enhance efficiency, collaboration, security, and agility.

## Autodesk Fusion Manage: Modern Cloud-Delivered PLM

Fusion Manage is a cloud-based PLM solution that streamlines product development and enhances collaboration across the extended enterprise. Its flexible, scalable architecture adapts to business needs, while configurable templates optimize PLM processes. With an open API, Fusion Manage integrates seamlessly with ERP, CRM, and PDM systems, providing a connected PLM ecosystem.

The solution offers flexible deployment, allowing businesses to start small and scale as needed. Centralized configuration management ensures all stakeholders access real-time product data, eliminating silos, manual tasks, and redundant processes, boosting efficiency across the enterprise. Configurable dashboards enable real-time monitoring of key metrics, driving faster, data-driven decision-making.

Fusion Manage's robust change management capabilities provide traceability, root cause analysis, and KPI tracking, while supporting centralized management of items and BOMs with revision control. It also tracks product development, manages requirements, and accelerates new product introductions through standardized phase-gate templates.

With closed-loop quality management, Fusion Manage reduces defects by integrating non-conformance requests, RMAs, CAPA, FMEA, and SCAR processes, driving efficiency in change management, and lowering quality costs. The solution also facilitates seamless supplier collaboration, improving data exchange and PLM integration across the extended enterprise.

## Conclusion

CIMdata believes that companies with a well-planned PLM strategy, roadmap, and integrated solution can better align product data, processes, and strategic business goals, driving increased business value. This alignment fosters digital transformation, enabling faster innovation, cost savings, improved product quality, reduced time-to-market, and greater competitiveness.

Companies that delay PLM implementation miss the opportunity to streamline product development and improve operational efficiency, leading to widening gaps between strategic vision and actual capabilities. This results in higher operational costs, longer time-to-market, reduced product quality, less innovation, and diminished competitiveness.

Fusion Manage is a cloud-based PLM solution that helps streamline product development, enhances stakeholder collaboration, and eliminates data silos through a scalable, configurable platform. With features like centralized product data management, structured BOMs, change management, quality management, supplier collaboration, idea management, and product portfolio tracking, Fusion Manage supports innovation and operational flexibility enabling companies to achieve significant business value. CIMdata's recommends that companies wishing to deploy a flexible, open, cloud-based PLM that can grow as their business requires, consider Fusion Manage in their evaluation and selection process.

## About CIMdata

CIMdata, a global strategic management consulting firm, provides services designed to maximize an enterprise's ability to design, deliver, and support innovative products and services. For more than forty years, CIMdata has provided industrial organizations, providers of digital technologies and services, and investment firms with world-class insight, expertise, and best-practice methods on a broad set of product lifecycle management (PLM) topics and the digital transformation they enable. CIMdata also offers research, subscription services, publications, and education through certificate programs and international conferences. To learn more, visit www.CIMdata.com or email info@CIMdata.com.