Product Lifecycle Management: Is your business making the right investments to fuel digitalization?
Industrial companies today are striving to be efficient and grow amid increasing complexity, globalization and cost pressures. Being digital is direct path to achieving these goals. For businesses that manufacture products, this means creating smart and connected digital products and digital value chains enabled by specific Product Lifecycle Management (PLM) capabilities, such as simulation and validation, electronic/electrical design engineering, manufacturing and aftersales integration.

Such capabilities allow integrated management of product data and software along the entire product lifecycle, improving readiness for digital business. However, many businesses are not investing in these capabilities. Instead, they are focusing on tools/IT and capabilities around classical product development.

As it stands, companies are missing the opportunity for an $8B bottom line impact. PLM investments could generate up to 50 percent higher returns if companies apply a sharper prioritization toward digitalization and pursue PLM programs as a means for true transformation.¹

Measuring readiness for digital
To better understand whether industrial companies are investing in the PLM capabilities that help digitalization of the value chain and digitalization of products, Accenture conducted a global survey to evaluate capabilities in relevant industrial clusters across France, Germany, Sweden and the United States. The research targeted leads of PLM and IT, as well as managers of business functions that use PLM regularly (R&D / engineering), from 211 companies across Automotive Suppliers, Machinery and Electrical Equipment,Heavy Equipment and Medical Devices.

Our survey findings show:
- Overall, companies consider their own maturity of PLM high.
- Across the board, companies expect PLM relevance to increase in the future.
- Process maturity is significantly lower than tools/IT.
- Alignment of business and IT functions is challenging in PLM.

What is PLM?
Product lifecycle management (PLM) is the capability for managing the entire lifespan of a service or product from its ideation, conception and design through manufacturing, marketing and sales up to after-sales services and disposal. It integrates people, data, processes and business systems (tools) and provides an information backbone for companies and their extended enterprise.

Who is reaching the next level of digitalization and increased competitiveness?
Survey results indicate that industry segments vary significantly in their level of PLM maturity, with different focus on specific capabilities. Automotive is the most mature in its PLM capabilities (see Figure 1).

Figure 1: PLM maturity across industry segments

1 Accenture analysis
Average scores among the Automotive Supplier, Machinery and Electrical Equipment, Heavy Equipment and Medical Devices companies we surveyed show that the relevance of all PLM capabilities will increase over the next five years. According to our survey results, maturity leaders see the highest increase of relevance in those PLM capabilities that drive digitalization (see Figure 2). Digital capabilities will support virtualization of processes along the value chain and digitize the product.

The Automotive industry and its Original Equipment Suppliers (OES) place strong focus on simulation, electrical design and engineering, and manufacturing integration. Heavy Equipment has similarly high maturity in terms of tools/IT, but significantly lacks process maturity. Industrial Equipment and Medical Device companies are late followers with PLM maturity.

Companies continue to dump dollars into PLM, but the returns aren’t there. PLM is a backbone capability for managing the product development processes. However, PLM capabilities that drive digitalization are what will move the needle with return on investment. Digital provides fuel for innovation, and a PLM strategy can be the engine for supporting innovation-fueled growth. This is why relevance of PLM is considered high, and will continue to increase. In fact, looking to 2019, the PLM market is forecast to grow at a compound annual growth rate (CAGR) of 5.9 percent to $50 billion.\(^2\)

To realize the most value from PLM investments, companies must help drive change on a process and organizational level—not just on a technology level. Optimized processes can transform PLM investments into significant business value. Approximately 40 percent of the total PLM market ($16B in 2015) represents the non-discretionary share of PLM spending. Accenture believes that by synchronizing tools/IT and processes from the beginning, the investment could generate up to 50 percent higher returns, hence a value potential of up to $8B annually on a cross–industry basis, based on an industry average ROI rate of 3-4 times over five years.

Right now, tools and IT are largely imbalanced in terms of maturity (see Figure 3). This apparent imbalance indicates that companies are not getting the returns that they could on PLM investments today. To capture new value, a business transformation is needed to align the maturity of processes and methods in line with IT tools. The data shows that there is a large disconnect between process/methods and tools/IT across all industries. However, the PLM capabilities that have the largest differences between maturity areas differ by industry. For instance, Heavy Equipment companies show a 10 percent gap between process/methods and tools/IT in Product Structure Management, while Medical Devices companies show the same percentage disconnect among Engineering Change Management.

\(^2\)Accenture Research based on CIMdata PLM market reports 2015
Who's to blame for the imbalanced maturity?

An important reason for imbalanced maturity of processes and tools/IT is because there is a disconnect between engineering/R&D functions as the main users of PLM systems on one side. The IT departments, which typically drive PLM implementation programs, sit on the other side.

Thirty percent of survey participants named the controversial opinions between IT and business as the number one challenge for their company. The two functional areas have differing perceptions about the relevance of PLM capabilities. For instance, there is an 11.5 percent difference in opinions on Tools/IT between the two groups. Furthermore, IT respondents consider maturity of Processes & Methods 7.6 percent less mature than engineering respondents (see Figure 4).

In addition to this major disconnect, survey respondents cited challenges that include complexity of global PLM programs is too difficult to handle, and standardization and integration of processes block adaptations to customer needs. As PLM will increasingly manage data across all functions, the alignment across functions will be even more difficult.

When IT leads, the business is left behind

The misalignment between business functions and IT restricts the return on PLM investments. The survey data proves the current perception of large-scale programs in the market, which are often IT-driven, and hence lack sponsorship of senior engineering leaders to advocate for change. The potential result is that the business will lack willingness to roll out new technology because they may believe that their needs and priorities were not factored into the solution.

A major shift must occur for there to be better alignment across functions. The business requirements define the transformation needed and lead the way with strong executive level sponsorship. Additionally, they should work together on building a sound business case to ensure profitability and keep the focus on PLM functionality that delivers real value for the business.

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**Figure 4: Differences in perception between business and IT functions - comparison by participant title / function.**

Source: Accenture International PLM Survey
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Investing where it makes sense for the bottom line

According to survey results, most organizations have a generic approach to investing in PLM. Specifically, they implement comprehensive PLM solutions versus sharpening their investment priorities to support the journey to digital. Data will continue to reign king in the digital world, and companies must harness its power—or they risk losing ground to competitors.

Casting a wide net yields narrow returns

Project and budget allocation has been distributed homogeneously and broadly across all capabilities, and without proper prioritization. The primary focus has been on "classical" PLM capabilities that show high maturity already today and/or low relevance in the future. For instance, 62 percent of Auto Suppliers have a high investment focus on mechanical design and engineering, however, this capability already has a high maturity and is estimated to be among the capabilities with lowest increase in future relevance (see Figure 5). Even more, there seems to be an unhealthy tendency to have increased investment focus for capabilities with lower future relevance.

Stop wasting money. Double-down on digitalization capabilities.

Accenture’s research indicates that businesses don’t prioritize PLM investments in alignment with their digital strategy. PLM capabilities that drive digitalization—such as manufacturing integration and simulation and validation—lack sufficient investment.

To stop the squandering of dollars, future investments should be prioritized by comparing relevance vs. maturity today in addition to considering future relevance, which varies by industry. For example, Automotive suppliers, which traditionally rely on PLM to fulfill automotive manufacturers’ requirements, may focus on partner integration and collaboration, electrical design and engineering, manufacturing integration, and simulation and validation. Furthermore, additional effort and investment focus should be put toward improving process maturity in order to achieve maturity balance, as indicated in Figure 3.

*Investment Focus: Percentage of respondents that have projects planned with allocated budget for the respective PLM capability

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Industrial companies have a timely opportunity to take action to leverage PLM for digital transformation. These four steps are critical to beginning the path to fueling growth.

**1. Re-engineering PLM to enable digitalization and create value**

**2. Drive true transformation**
To be able to capture the full benefits of PLM, ways of working must evolve. Technology is important, but processes must also advance to truly enable change. This calls for putting greater emphasis on process improvements over tools/IT. PLM investments must also be prioritized continually to fully elevate digital capabilities to the next level. Establish metrics to track the improvement on a process level and continually measure the value and progress throughout the transformation journey.

**3. Let the business define your digitalization agenda**
Identify what your business needs to compete in the digital era—growing digital products, or process, or both? Define the set of PLM capabilities that will support that strategy and enable digitalization. In this paper, we have identified the top capabilities, but it will vary by industry and company.

**4. Prioritize investment in PLM capabilities that enable digitalization**
The digital world requires seamless integration of data across the value chain, so sharpen investment priorities around the capabilities that will enable such integration, and thus drive future business growth.

**5. Join forces between business and IT**
Transformation priorities should be clear so that business and IT leadership can align around those priorities. When IT and the business collaborate to identify areas that can drive growth, the business will be equipped to invest strategically rather than across the board.
Redefining the future of PLM

Accenture has worked with industrial companies around the world to fuel growth and innovation. With a global team of more than 4,000 PLM professionals and strategic alliances with all major technology vendors, Accenture is able to provide vendor-agnostic, end-to-end support for large-scale PLM business transformation programs. Accenture combines our deep industry knowledge with specialized services to help you develop and execute the appropriate action plan for digitalization.

Our field-tested capability assessment can help you define your position against the industry benchmark and identify the biggest gaps. Accenture can support the creation of a digital strategy, develop the roadmap based on the given strategy and support a value-driven implementation consisting of business transformation. And, by bringing to bear our efficient delivery models, Accenture can help you reduce your investments as you enhance your PLM capabilities that help you be a digital business.
Contact Us
For more information, please contact:

Sarat Maitin
Managing Director, Product Lifecycle Services
sarat.maitin@accenture.com

Michael Bitzer
Senior Manager, Product Lifecycle Services
michael.bitzer@accenture.com

Additional Contributors:

Matthias Wahrendorff
Lead, Global Industrial Research
matthias.wahrendorff@accenture.com

Andreas Pipilis
Manager, Product Lifecycle Services
andreas.pipilis@accenture.com

Visit www.accenture.com/pls

About the Research
The Accenture International PLM Survey was conducted as an online survey and targeted automotive supplier companies, industrial and electrical equipment companies, heavy equipment manufacturer and medical devices companies with an annual revenue greater than $500M. Survey respondents were from France, Germany, Sweden and the United States.

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