Product Lifecycle Management
The Billion Dollar Lever

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Critical Components of the PLM Process

The PLM process integrates a multitude of critical cross-functional activities such as:

- product strategy
- portfolio management
- product management
- idea and requirements gathering
- product design
- product engineering
- product validation and compliance
- product costing
- product quality
- direct material sourcing
- manufacturing
- after-market services
- product retirement

Complementary to PLM activities are supporting PLM capabilities. These capabilities drive activities, decisions and data within the end-to-end PLM process. Examples of such PLM capabilities include, part and intellectual property management; product structure and reuse; engineering changes; stage-gate approvals; ideas and requirements; software configuration; quality tests and defects; product costs; and development project status.

For a global enterprise to maximize the business impact of PLM processes, they need to examine two dimensions: effectiveness and efficiency.

Large communications, media & high-tech companies are making substantial investments, often 5-to-25 percent or more of revenue, inside the PLM business process. But according to Accenture's analysis, nearly half of spending inside PLM ends up wasted on products that do not meet market needs or timing. This translates into huge improvement opportunities for PLM process effectiveness.

Typically, these communications, media & high-tech companies have thousands of highly skilled and well-paid designers, scientists and engineers working each day inside global PLM processes across hundreds of current and future products. However, due to a frequent lack of central coordination, prioritization and integration of processes, systems and data, a substantial number of non-value-added and redundant tasks are necessary. This makes available substantial improvement opportunities in PLM process efficiency.

Together, effectiveness and efficiency impact corporate spending inside the PLM process and the potential market revenue impact from PLM.

Improving the PLM Billion Dollar Lever

Enabling the PLM process with technology can have a major impact, but it generally needs to be implemented with an integrated plan focused on a distinct business process. Within the PLM process, most global companies have deeply fragmented systems of 20 or more applications that cause efficiency and effectiveness drags.

This provides an excellent opportunity for PLM process streamlining and application rationalization. The PLM technology market has a number of leading software vendors providing powerful and field-tested applications. However, none of them provides the complete end-to-end business process coverage available, for example, across customer relationship management and enterprise resource planning applications.

As such, communications, media & high-tech companies will continue to operate with three or more PLM vendors needed to completely span the various PLM capability areas, including idea/requirements management; portfolio and project
management; design and scientific tools; product data management; direct material sourcing; and product quality and analytics. Such complexity becomes exacerbated by various design and development activities needed to support a company’s portfolio of offerings, including styling/industrial design; mechanical, electrical and integrated circuit engineering; artwork/packaging design; software development, and technology research.

Companies That Have Succeeded in Improving PLM

Despite these challenges, several communications, media & high-tech companies have invested in, and benefited from, improvements within the PLM process.

Specific Steps Companies Can Take to Improve PLM Processes

True enterprise PLM requires a company to build an architecture for its PLM capabilities. This consists of an end-to-end framework that spans multiple solutions and accommodates business processes and data from many functions ranging from marketing, to design, to product portfolio management. A one-size-fits-all answer does not exist, but regardless of industry sector of PLM experience, Accenture has identified four steps that merit executive attention:

1. Create an enterprise-wide framework that defines the organization’s PLM capabilities

Define what is and is not PLM, then formally break down and re-evaluate current PLM capabilities across the enterprise. Review all processes, applications, metrics, organization, and data that underpin product development process flow, from initial concept, to product retirement. Then examine the performance and maturity of each as objectively as possible. High-performance businesses structure PLM as a hierarchy of capabilities that span the process, represent various organizations and competencies, and connect all corners of the PLM landscape with each another.

There may be 15-to-30 “Level 1” capabilities, such as product development resource management, design reuse and product cost management. By contrast, at “Level 3” there might be more than 250 capabilities focused on specific functional areas or process needs, such as resource skills tracking, three-dimensional mechanical part cataloging, or electrical design verification.

For example:

One version of the truth: A provider of servers and storage equipment re-designed its business processes to better leverage PLM technologies. The firm created “one version of the truth” for a single engineering change process for all its hardware products, including several from large acquisitions.

Integrating hardware and software: A provider of electronic gaming equipment developed and deployed new processes, data models and a central application to manage the relationship between its hardware designs and corresponding software designs, as they evolved through development and change processes.

Increasing re-use: A global consumer electronics company implemented a streamlined portal and graphic user interface, providing a fast and visual way for designers and engineers to more easily search, find and re-use components, solutions and information stored in its PLM databases.

Eliminating waste in the process: A mobile phone manufacturer used Accenture’s Value Stream Mapping (VSM) methods to examine and improve its end-to-end PLM process. Using this method, the manufacturer identified and developed plans to eliminate constraints, bottlenecks, and redundant tasks. These findings increased the percentage of value-added time available for the thousands of people executing daily tasks within the PLM process.

2. Link the PLM framework’s capabilities to key corporate and product priorities

This linkage should use five-to-ten business metrics that track the effectiveness and efficiency of innovation and product development outputs. Helping link causes to effects, the metrics should transcend any one department or function. They might relate to pipeline throughput, cost of engineering, reuse of platforms or components, or resource use. For instance, if plans call for more new products to be developed in lower-cost countries, the PLM framework would link that objective to the corresponding capabilities and metrics using global collaboration.

3. Use the new enterprise PLM framework and the link to corporate priorities as an ongoing PLM investment planning tool

By deconstructing the organization’s PLM capabilities, it is relatively straightforward to turn the results of that exercise into a powerful tool for ongoing planning activities. This framework enables the organization’s varied and often disjointed constituents to have meaningful conversations. They can more easily analyze trade-offs, guide investments in product development improvement projects, and measure the impact of those projects over time against key metrics. For example, one high-technology company used this framework to concentrate its future PLM focus and investment to improve software product development processes rather than mechanical design. As such, the firm chose to improve the productivity of its thousands of software designers instead of its hundreds of mechanical designers.

4. Establish and empower a group whose job it is to own, review and update the PLM framework and corporate roadmap

As with customer relationship management, supply chain management and enterprise resource planning areas in most companies, there has to be a single, formal organization to advance and support the PLM journey. That organization should have unambiguous, unwavering and visible sponsorship from a senior executive. This helps ensure PLM becomes part of the company’s innovation fabric rather than a one-time project or program.

The good news is there are many cross-industry cases proving the merits of improving PLM and leveraging leading practices to enhance the innovation and product development processes. The better news is in many industries, corporate PLM trails have already been blazed, providing strategies, lessons learned, and methodologies to leverage as communications, media & high-tech companies seek to improve their own billion dollar levers.
About Accenture Product Lifecycle Services

Accenture Product Lifecycle Services, an Accenture Business Service, delivers tailored end-to-end innovation, product development and support solutions that help global organizations achieve high performance in today’s dynamic environment. These solutions span innovation (doing things appropriately and increasing the value of the innovation portfolio), through the entire product development process (fast, efficient and repeatable operations and execution), and on to downstream support (necessary to maximize profit throughout the lifecycle). These solutions help communications, media and technology clients work towards a higher return on their investment by accelerating innovation and product development, reducing product costs and complexity, and optimizing their portfolio of products and services. Its home page is www.accenture.com/PLS.

About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with more than 336,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world’s most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US$30.0 billion for the fiscal year ended Aug. 31, 2014. Its home page is www.accenture.com.