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TECHNOLOGY****INTRODUCTION OF PLM****Mr. Sagar Santu Shete, Prof. Hredey Mishra**

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ABSTRACT

In industry, product lifecycle management (PLM) is the process of managing the entire lifecycle of a product from inception, through engineering design and manufacture, to service and disposal of manufactured products. PLM integrates people, data, processes and business systems and provides a product information backbone for companies and their extended enterprise.

Product Lifecycle Management (PLM) helps you manage complex, cross-functional processes, coordinating the efforts of distributed teams to consistently and efficiently develop the best possible products. The PTC PLM software system manages all aspects of the product development lifecycle, from concept through service and retirement. By optimizing product development processes and using a single, secure source of information, you can develop products that are competitive, cost-effective, and high quality.

PLM systems help organizations in coping with the increasing complexity and engineering challenges of developing new products for the global competitive markets. Product lifecycle management (PLM) should be distinguished from 'Product lifecycle Management (marketing)' (PLCM). PLM describes the engineering aspect of a product, from managing descriptions and properties of a product through its development and useful life whereas; PLCM refers to the commercial management of life of a product in the business market with respect to costs and sales measures. Product lifecycle management can be considered one of the four cornerstones of a manufacturing corporation's information technology structure. All companies need to manage communications and information with their customers (CRM customer relationship management), their suppliers and fulfillment (SCM supply chain), their resources within the enterprise (ERP enterprise resource planning) and their product planning and development (PLM).

One form of PLM is called people centric PLM. While traditional PLM tools have been deployed only on release or during the release phase, people centric PLM targets the design phase.

KEYWORDS: Product Lifecycle Management (PLM), CRM customer relationship management, ERP enterprise resource planning

INTRODUCTION**Areas of PLM**

Within PLM there are five primary areas;

1. Systems engineering (SE)
2. Product and portfolio m² (PPM)
3. Product design (CAx)
4. Manufacturing process management (MPM)
5. Product data management (PDM)

Systems engineering is focused on meeting all requirements, primarily meeting customer needs, and coordinating the systems design process by involving all relevant disciplines. An important aspect for life cycle management is a subset within Systems Engineering called Reliability Engineering. Product and portfolio management is focused on managing resource allocation, tracking progress vs. plan for new product development projects that are in process (or in a holding status). Portfolio management is a tool that assists management in tracking progress on new products and making tradeoff decisions when allocating scarce resources. Product design is the process of creating a new product to be sold by a business to its customers.

Manufacturing process management is a collection of technologies and methods used to define how products are to be manufactured. Product data management is focused on capturing and maintaining information on products

and/or services through their development and useful life. Change management is an important part of PDM/PLM.

Introduction to development process

The core of PLM (product lifecycle management) is in the creation and central management of all product data and the technology used to access this information and knowledge. PLM as a discipline emerged from tools such as CAD, CAM and PDM, but can be viewed as the integration of these tools with methods, people and the processes through all stages of a product's life. It is not just about software technology but is also a business strategy. For simplicity the stages described are shown in a traditional sequential engineering workflow.



Fig 1 Product Lifecycle Management

For simplicity the stages described are shown in a traditional sequential engineering workflow (*Fig-1*). The exact order of event and tasks will vary according to the product and industry in question but the main processes are

- Conceive
 - Specification
 - Concept design
- Design
 - Detailed design
 - Validation and analysis (simulation)
 - Tool design
- Realize
 - Plan manufacturing
 - Manufacture
 - Build/Assemble
 - Test (quality control)
- Service
 - Sell and deliver
 - Use
 - Maintain and support
 - Dispose

Aspect of PLM

Business Drivers

Innovation and new product development are essential for most companies to sustain future revenue growth. Customers demand more new products in shorter time intervals, often customized to their own needs. They want more attractive designs, better performance, better quality, lower prices, and instant availability. To meet these needs companies have to be able to collaborate closely within their own organization and with partners and suppliers located in various parts of the world. At the same time companies have to manage increasing product and manufacturing complexities due to a quickly growing number of environmental and regulatory rules and requirements.

The Problem of Statement

Accelerating innovation and increasing the number of successful new product introductions is a huge challenge for most organizations today because of their traditionally serial, fragmented, manual, and paper based processes. The result is that many companies suffer from NPDI practices that are slow, resource intensive, costly, inflexible, provide little visibility, and are difficult to manage and control.

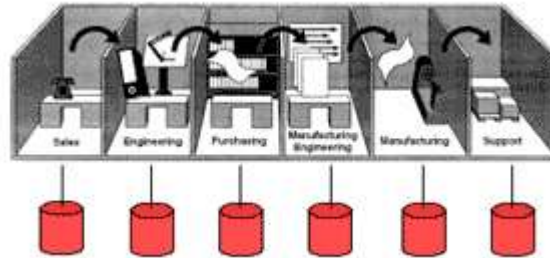


Fig 2- Problem Statement

The Solution – PLM

Through their ability to integrate all product related data and processes and to eliminate boundaries in the value chain, PLM Systems can significantly reduce non value added activities and enable stakeholders to collaborate in real time using a consistent set of information throughout the entire product lifecycle.



Fig 3- Solution

As a result, productivity improvements of over 60% in NPD Related activities have been achieved through PLM enabled, enterprise wide data and process optimization and integration that have allowed companies to:

- Drive innovation
- Accelerate Revenues
- Increase Productivity
- Reduce Costs
- Improve Quality
- Ensure Compliance
- Shorten Time to Market

In today's highly competitive, fast paced and global business environment, well designed and implemented PLM practices, processes and technologies that support an organization's strategies for innovation and growth can afford companies a real competitive advantage.

CONCLUSION

The purpose of this paper was to introduce the Product lifecycle Management (PLM) system which is much beneficial to the industrial sector as well service industries. Because of this the industries get streamline with the system and also which is directly affected to the cost of the product.

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