

Preface

This is the second volume of the third edition of *Product Lifecycle Management: Paradigm for 21st Century Product Realisation*.

Product Lifecycle Management (PLM) is the business activity of managing, in the most effective way, a company's products all the way across their lifecycles; from the very first idea for a product all the way through until it is retired and disposed of.

In the middle of the twentieth century, between 1945 and 1970, things changed little in the world of products. Companies, and their executives and employees worked out how to succeed in that environment. They had an accepted way of thinking, a paradigm, about the way products were managed.

Between 1970 and 2015, for various reasons, the product landscape changed rapidly and significantly. Facing so many changes, companies had to change to remain competitive. But change how? What's the new paradigm for managing products in the changed environment? Or, put another way, how should a company, its executives and employees be organised and work in this new environment? And, how should a company transition from the old paradigm to the new paradigm? Or, put another way, what set of actions will a company have to execute to achieve the change? What will be in the PLM Initiative? This book addresses these questions.

The new PLM paradigm emerged at the beginning of the twenty-first century and has been evolving since then. It was described in the first edition of this book, which was published in 2004. The second edition of the book was published in 2011. Since then, the paradigm has continued to evolve. There have been more changes in the technologies, products and the PLM environment. This third edition of the book addresses these changes, technological advances and the ever-increasing application of PLM.

As its name implies, Product Lifecycle Management enables companies to manage their products across their lifecycles; from the earliest idea for a product all the way through to the end of its life. This is one of the most important activities in any company that develops and supports products.

PLM is important because it enables a company to be in control of its products across their lifecycle. If a company loses control, the consequences can be serious. If it loses control during product development, the product may be late to market and exceed the targeted cost. The results of losing control during use of the product may be a frustration and a lack of satisfaction for the customer, or much worse, injury and death.

PLM addresses the heart of the company, its defining resource, the source of its wealth, its products. That is the role of PLM, which is why PLM is so important. Products define a company. Without its products, a company would not be the same. There is little in a company more important than its products and the way they will be developed and used. Without those products, there will be no customers and no revenues.

PLM is also important because it improves the activity of product development, without which a company will not survive. The source of future revenues for a company is the creation of new products and services. PLM is the activity that enables a company to grow revenues by improving innovation, reducing time-to-market for new products, and providing superb support and new services for existing products.

PLM is also important because it enables a company to reduce product-related costs. Product-related material and energy costs are fixed early in the product development process. PLM provides the tools and knowledge to minimise them. And PLM helps cut recall, warranty and recycling costs that come later in the product's life.

PLM provides a way to overcome problems with the use and support of existing products and with the development of new products. But PLM does not just have the potential to solve problems in the product lifecycle and in new product development. It also helps companies seize the many market opportunities for new products in the globalised environment of the early twenty-first century.

PLM is not easy to implement. It addresses areas previously considered separate, and managed separately. They include products, product data, business processes, applications, people and organisational structures. And PLM addresses them across the product's entire lifecycle, from cradle to grave. Most companies have, in their product portfolios, many products at different lifecycle stages. Managing product lifecycles in a global economy is a daunting proposition. PLM provides a framework in which all of a company's products can be managed together across their lifecycles.

PLM is cross-functional and, in the extended enterprise environment of the early twenty-first century, it is often cross-enterprise as well. Product lifecycle participants are often in different time zones, use different applications and work for different companies. The responsibility for the product may change at different phases of the lifecycle. At different times, it may be with marketing, engineering, product management, manufacturing, finance, marketing, sales and service groups in different companies. Getting agreement on a common approach among all these organisations can be time-consuming. PLM helps get everyone to work together effectively.

Implementation of PLM may take a long time. Clarifying and straightening out processes, data, organisational issues and applications can be time-consuming. Some of the processes and methodologies to propose, define, manufacture, support, upgrade, retire and recycle the product may not be aligned, or may even not exist. The knowledge about the product may be in different applications. The format in which data are created in one application may not correspond to the format in which it is needed in another application. In spite of these difficulties, companies must meet the increasing demands of their customers. They need to rapidly and continually improve their products and services. To achieve this they will turn to PLM. This book helps them understand and implement PLM. As for the previous editions, it draws on the extensive PLM consulting activities and experience of the author.

<http://www.springer.com/978-3-319-24434-1>

Product Lifecycle Management (Volume 2)

The Devil is in the Details

Stark, J.

2016, XXXII, 634 p., Hardcover

ISBN: 978-3-319-24434-1