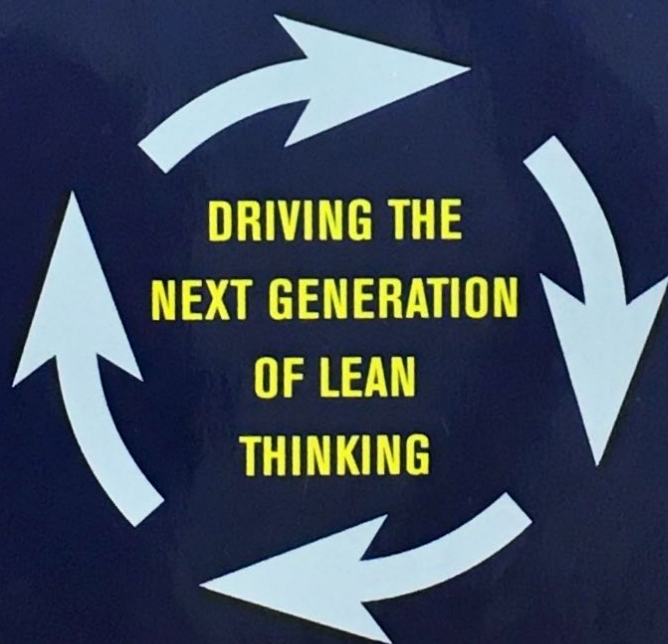


How GE, P&G, Ford, Toyota, and Other Leading Companies
Achieved Dramatic Increases in Productivity and Profit

PRODUCT LIFECYCLE MANAGEMENT



MICHAEL GRIEVES

PRODUCT LIFECYCLE MANAGEMENT

DRIVING THE
NEXT GENERATION
OF LEAN
THINKING

MICHAEL GRIEVES

GIFT OF THE ASIA FOUNDATION
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Acknowledgments

MY FORMAL INTRODUCTION to Product Lifecycle Management, or PLM, came over coffee. I met Gary Baker, a vice president with EDS working on the General Motors account and a longtime colleague of mine from the days when I chaired the Michigan Technology Council. I was planning a session for the Management Briefing Seminar (MBS), which in spite of its inauspicious name was and is an important get-together of the automotive industry organized by the University of Michigan and the Center for Automotive Research each summer in the beautiful resort area of Traverse City, Michigan.

In previous years I had organized sessions at MBS around the topic of information exchanges. Material exchanges were all the rage during the Internet era. Material exchanges in the automotive industry appeared to be win-lose propositions, with the powerful automobile manufacturers certain to wring every last bit of profit from the supplier community.

My perspective on exchanges was a little different. It involved a focus on information and not material. If the automotive community could develop exchanges of information such as order flow, product specifications, product status, warranty costs, etc., then costs could be replaced by this information. This could be a win-win

proposition for both the automobile manufacturers and their suppliers. Gary, who had attended my session the previous year, said, "Your ideas about information exchanges are related to something we are working on called Product Lifecycle Management (PLM). Let me introduce you to our people."

The Internet bubble burst, taking with it a good deal of interest in exchanges. However, the interest in PLM continued to grow and the ideas about PLM continued to mature. A lot of my ideas came about because Ed Borbely, the Director of the Center for Professional Development in the College of Engineering at the University of Michigan, encouraged me to develop the first university-based executive education course in PLM. The interaction with executives and managers involved with PLM allowed me to crystallize my thoughts about PLM as a larger approach to the product information management problem and its relationship to other approaches and systems.

I would also like to thank my professional friends and colleagues who have helped me refine my ideas about PLM: John Crary, the CIO of Lear Corporation who was my partner in crime in developing information exchanges and implemented PLM, which gave me a window into its actual use; Lorie Buckingham, CIO of Visteon Corporation, who helped me refine some ideas on the strategy of moving a large organization into PLM; Eric Sterling, VP UGS; Peter Schmitt, VP Delmia; Raj Khosho, VP UGS, who helped me clarify the use of information as a substitute for wasted time, energy, and material at a workshop in Qingdao, China; Ed Miller, CEO of CIMdata, who has presented an overview of the ever-evolving PLM supplier community in my courses; and Nino DiCosmo, Chairman and CEO of Autoweb, Inc, who had planned a peaceful trip with me to Tokyo for a board meeting, but spent it having to critique the issue of information singularity.

My editor, Jeanne Glasser, deserves a great deal of credit for identifying PLM as a topic worth reading about, tracking me down, and convincing me that writing a book would be fun—and then having to put up with the problems of a new author.

Last, but not certainly not least, I would like to thank my lovely wife, Diane, for encouraging me to write this book and then leav-

ing me alone to do it. My son, Rob, and his wife, Chris, were also encouraging. Their children, Nick, Bianca, Jake, Gabrielle, and Bella constantly remind me by their observations and actions that there are new, exciting, and useful ways of looking at the world, even if, as Nick who is 12 puts it: they “have no clue” what I’m talking about when I talk about PLM.

Introduction— The Path to PLM

PRODUCTIVITY was the word. We never saw signs of doing things or new things or do that drive a new wave of productivity. Many waves of productivity are driven by a single innovation such as the steam engine, the automobile, or the computer. Other waves are driven by our approach to the way we do things, such as the assembly line, the standardization of labor's expectations, or lean manufacturing.

In the second wave of productivity, Product Lifecycle Management (PLM) emerged in the late 1990s, just before, or just around, PLM was first defined as the end-to-end management of products, two areas with complex, overlapping products. The PLM industry, while the product lifecycle management (PLM) area on software configuration and the PLM lifecycle management in the enterprise and core data management, is not an early version of PLM or PLM-like technologies. With the advent of PLM in three distinct iterations, namely PLM lifecycle management in design, in production, and in service, PLM is defined as design, product, and service lifecycle management.

PLM is a lifecycle of product lifecycle management, design, product, and service lifecycle management. PLM is a lifecycle of product lifecycle management, design, product, and service lifecycle management.