

# Chapter 15

## An Exploratory Study on Product Lifecycle Management in the Fashion Chain: Evidences from the Italian Leather Luxury Industry

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### ABSTRACT

*New Product Development (NPD) in most manufacturing sectors is stressed by an increasing global competition and pressure to improve product quality and innovation, reduce product cost and time-to-market (TTM), and rapidly respond to changing customer needs and shortened product lifecycles. These requirements are increasingly fulfilled by applying the PLM (Product Lifecycle Management) approach, a widely accepted concept that generally defines the adoption of a large number of ICT (Information and Communication Technology) solutions for managing product data along the product lifecycle. This contribution shows the results of research concerning the application of PLM within the luxury fashion supply chain, conducted in 2009 in Italy, with the analysis of 20 companies of the leather market. The research shows some of the differences that exist between the luxury industry and other more PLM-oriented sectors (e.g. automotive) in terms of adopted ICT tools, criticalities, problems, and benefits expected and realized.*

### INTRODUCTION

New Product Development (NPD) in most manufacturing sectors is stressed by an increasing global competition and pressure to improve product quality and innovation, reduce product cost and time-

to-market (TTM), and rapidly respond to changing customer needs and shortened product lifecycles. These requirements are fulfilled by applying the PLM (Product Lifecycle Management) approach, a widely accepted concept that generally defines the adoption of a large number of ICT (Information and Communication Technology) solutions

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in order to support collaborative and coordinated environments, managing product data along the product lifecycle (from the cradle to the grave), and mainly focuses on the NPD process.

PLM has been extensively studied and analyzed in recent years, with different authors highlighting the holistic meaning of such acronym (e.g., Stark, Saaskvuori and Immonem, Grieves). For example, according to Stark (Stark, 2005), it brings together products, services, structures, activities, processes, people, skills, application systems, data, information, knowledge, techniques, practices and standards. Saaskvuori and Immonem (Saaskvuori and Immonem, 2005) define it as a comprehensive approach, entailing: (i) a strategic management perspective, wherein the product is the enterprise value creator; (ii) the application of a collaborative approach to better use the enterprise competences distributed amongst diverse business actors; and (iii) the adoption of plenty of ICT solutions in order to practically establish a coordinated, integrated and access-safe product information management environment in the extended context. Grieves (Grieves, 2006) identifies in PLM everything which deals with the management of the product data that are created, stored, and managed along the lifecycle of a product, from the design to end of life. Ma and Fuh (2008) state that PLM is a technical term to describe a comprehensive, systematic and scientific approach in managing enterprise performance based on a coherently and consistently integrated computer system that can effectively and efficiently fulfill the product and process information requirements within a dynamic, collaborative and networked environment.

PLM is one of the most recent evolutions of the enterprise ICT applications, characterized by an increasing integration and interoperability into and between tools and supported processes, both in design and management activities. In the last 30 years, CAx (Computer Aided, where x stands for Design, Styling, Manufacturing, Engineering, Process Planning, etc.) tools have successfully evolved from 2D to 3D modeling techniques,

enabling a list of knowledge-based engineering approaches, generally addressed as Virtual Prototyping, Digital Mock-Up and Virtual Reality. Since the 1990's, collaboration in product design, development, and delivery has been enabled in integrated software platforms (alternatively addressed with new acronyms, like TDM Technical Data Management, EDM Engineering Data Management, PDM Product Data Management, PIM Product Information Management, etc.) where product data can be safely stored, retrieved, and reused. Since 2000, PLM has been used to define a comprehensive ICT market, nowadays composed of two main segments: (i) one constituted by a galaxy of design tools (i.e. CAx and engineering tools) and (ii) a second one composed by a plethora of Collaborative Product Definition/Development and Management platforms (CPDM). The first segment is dominated by ICT players historically dedicated to product design, like Autodesk, Dassault Systèmes, PTC, SIEMENS, while in the second these vendors compete with many other players coming from other backgrounds such as Oracle, SAP, etc.

PLM market is one of the most booming ICT markets irrespective of the global crisis, as many analysts (e.g. AMR Research, CIMdata, Daratech, Gartner) are continuously declaring, and PLM projects are considered as strategic investments, to be financed for surviving and preparing companies "for the next economy up-cycle" (Cimdata, 2008). It has been widely applied in capital intensive industries such as aerospace and automotive. In such industries, the same PLM concept has been defined and it is still evolving, (Sapuan et al, 2006), (Tang and Qian, 2008), (Alemanni et al, 2008) becoming a comprehensive system supporting the information needs regarding products "from cradle to grave". This system involves many engineering stages such as industrial design, conceptual design, detailed design, process planning, manufacturing, assembly, sales, maintenance, and recycle or destroy (Ma and Fuh, 2008).

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