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PLM Applications in the Sustainable Design Process

Prof.Dr. Ziyet ÖNDOĞAN, Ege University, Faculty of Fashion and Design, Türkiye
Assist. Prof. Dr. Özlem KURTOĞLU NECEF, Ege University, Faculty of Fashion and Design, Türkiye
Assist. Prof. Dr. Ece Nüket ÖNDOĞAN, Ege University, Faculty of Fashion and Design, Türkiye
Assist. Prof. Dr. Arzu Şen Kılıç, Ege University, Faculty of Fashion and Design, Türkiye

Abstract

Product Lifecycle Management (PLM) systems are used as a set of business solutions and tools for the management of the entire lifecycle of a product, from its design to its disposal. Sustainability in design is becoming increasingly important. In this process, the rapid changes in customer preferences and the resulting short product life cycles make the design, production and retail areas of related industrial products such as the fashion industry where design elements are at the forefront more complex. This situation has led to the increasing value of the design process in industrial products such as the fashion industry. For this reason, PLM has been increasingly used in other sectors where sustainable design is gaining value. PLM systems, called "digital revolution", can be used in all processes, from trend analysis, preparation of designs, preparation of prototypes, definition of samples and collection details, from production to retail processes, integrated with 2D and 3D software.

Design is the initial procurement process that moves from upstream to downstream through the procurement process. It represents the start point where the creative idea starts. Decisions taken at this level can determine the success or failure of a product in the market. The design process is also important in observing, archiving, classifying and sharing customers' needs, requirements and trends in a collaborative production environment. To ensure that the product can be successful in the market, Trend Analysis and Storyboarding processes and the design process must be interconnected. In this study, the stages of the design process are examined and the usage areas of PLM applications in these stages are mentioned.

Keywords: Fashion Design, PLM, Sustainability.