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“CLEANER PRODUCTION INITIATIVES AND CHALLENGES FOR A SUSTAINABLE WORLD”

## **Bibliometric Analysis of Literature on Product Life Cycle Management, Product Development Process and Sustainability and their Interfaces**

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### **Abstract**

The aim of this paper is to present a review, classification, codification, and analysis of the literature of the concepts Product Life Cycle Management (PLM), New Product Development (NPD), Sustainability and their interfaces. It seeks to map the literature on those concepts by bibliometric analysis. The analysis is supported by software (UCINET and SITKIS) to present the relations among the concepts, networks of citations and references, and related topics. Subsequently, the paper identifies a gap in the literature on perspectives for future research. ISI Web of Knowledge database is accessed as well as a Brazilian portal which is linked to various databases (CAPES). The analysis considers publications between 2006 and 2010, classifying according to various criteria. When classifying the papers, difficulties were encountered in identifying the research methods, since there was limited information on many articles. The results show that the papers are published in a dispersed way in different journals. The majority of them adopt case study as a methodological research approach as well as theoretical-based conceptual papers. Concerning the nature of the data, qualitative approach is more used than the quantitative one. Most papers are descriptive studies. One of the reasons might be due to the fact that these concepts are not well consolidated in the literature. The examined publications incorporated the concept of sustainability and PLM in the NPD process and are more extensively applied in industries, supply chain and software development. Papers usually emphasises the improvement NPD, performance assessment, and the integration of information from different areas. Finally, the article concludes that the literature converges to an integration of the concepts of sustainability and PLM, within the current practices of the NPD. There is a trend increased towards environmental issues demanded by society and the need of organizations to employ strategies that consider product end of life (remanufacturing, recycling and reuse).

**Keywords:** *Product development process (PDP). Product life cycle management (PLM). Sustainability.*

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