

International Conference on

Design and Production Engineering

July 25-26, 2016 Berlin, Germany

Optimization of the flexibility–efficiency trade-off in engineer-to-order industries

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Nowadays, Engineer to Order (ETO) companies have to match request for customization with shorter and shorter delivery lead times, with the consequent need to optimize the flexibility-efficiency trade-off. Therefore, this study aims at investigating how this problem has been addressed in literature and what are the existing open issues. According to literature, the ETO concept is often related to the position of the customer order decoupling point (CODP): The order entry point that starts the customer order driven activities. ETO corresponds to the CODP configuration where both non-physical and physical activities have to be performed after the arrival of the customer order, either defining a completely new product from scratch or adapting an existing design to the customer requirements. Hence, the engineering activities represent core competences. Nevertheless, the traditional view of the CODP does not consider different customization levels in the engineering phase. Thus, Rudberg and Wikner (2004) emphasize the impact of the customer order in both engineering and production dimensions through a two-dimensional CODP. This was the first work that underlines the necessity of a two dimensional perspective. Yet, there is still a lack of contributions in literature related to this area. Subsequently, this paper suggests future research directions, by defining a framework to support the study of the main implications and incentives of the two dimensional CODP positioning in ETO companies to optimize the flexibility-efficiency trade-off.

Biography

Cannas Violetta Giada is PhD candidate at School of Management of Politecnico di Milano (POLIMI) from November 2015. Additionally, she supports teaching activities on the course of “Business Processes Reengineering” at POLIMI. In July 2014, she obtained her MSc with honors in Management Engineering from “LIUC – Università Cattaneo” in Castellanza (Varese), Italy, with a specialization in “Lean Manufacturing”. Her main research interests are associated with production planning, and supply chain design and management.

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