

# **Understanding Fix-Cost Allocation and its Effect on Supply Chain Performance**

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## **Abstract (12 font)**

The focus of this work is the problem of structural complexity emanating from the firm's business strategy and associated to the proliferation of products, channels and markets. Structural complexity makes difficult for allocating fixed-costs and obstruct the understanding the true cost of a SKU. The understanding of that cost is necessary for correctly computing profitability of each product and consequently sizing the capacity of a facility and making hard product portfolio choices. In this work we introduce a way for systematically evaluating profitability and apply it for the case of two very large global firms. We find that in more than 75% of the cases studied, production facilities should reduce the number of products in the portfolio even though their capacity utilizations were relatively low. The effect of the changes on product portfolio and facility utilization improved EBIT profits from 10% to 60% and, in some cases, helped facilities' financial performance to change from red to positive values in the bottom line.

## **Keywords**

Structural complexity, fixed-cost allocation, SKU profitability, finance-operations

## **Biographies**

**Mozart Menezes** is a professor at the Kedge Business School –Bordeaux, France, where he leads the Supply Chain & Complexity Management lab (*sc<sup>2</sup>m*). Previously, he has been a faculty member at the Zaragoza Logistics Center, Spain; and at HEC School of Management – Paris. Professor Menezes has held visiting positions at the Center for Transportation and Logistics (CTL) at MIT– Boston, USA. Dr. Menezes has worked with either as employee or in projects, as consultant or advisor, to several companies including Alcatel-Lucent, City of Calgary, Danone-Nutricia, Environmental Research Systems, General Motors, Imaginarium, Medecins Sans Frontieres, Procter and Gamble, Saica Natur, Solutia, Sonoco, Telefonica, and others. He obtained his PhD degree in Operations Management from the Rotman School of Management, University of Toronto, Canada.

**Diego Ruiz-Hernandez** is leader of the Mathematical Optimisation for Banking Services group at CUNEF – College University of Financial Studies. He has held visiting positions at universities in Edimburgo, Strathclyde y Lancaster in UK. His main interests are in the area of discrete optimization on networks.