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## The Practices of Reverse Logistics Processes in Portuguese Companies

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From the perspective of companies and other organizations that become active acceptance of discarding or recovery, reverse logistics arises for Economic, Legislation and Social reasons. Thus, we propose to draw up a detailed analysis to the observation of these phenomena business in Portuguese companies, by their level of importance and verify the relevance given by managers to the reverse logistics as an important tool for decision making, using at this stage of the research that the results are still preliminary, a descriptive research through an online questionnaire.

**Keywords**  
Reverse logistics; Supply chain; End-of-use products

## A SQP type method for constrained multiobjective optimization

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We propose a SQP type method for constrained nonlinear multiobjective (MO) optimization. The proposed algorithm maintains a list of nondominated points that is improved both for spread along the Pareto front and optimality by solving uniojective constrained optimization problems. Under appropriate differentiability assumptions we discuss convergence to local optimal Pareto points. We provide numerical results for a set of MO optimization problems in the form of profiles. The numerical results confirm the superiority of the proposed algorithm against a state-of-the-art MO solver.

**Keywords**  
Multi-objective and goal programming; Methods of successive quadratic programming type; Nonlinear programming

## Performance assessment of children and youth households

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This study purposes a Data Envelopment Analysis (DEA) framework to assess the performance of Non-Profit Organizations that look after children and young people. The DEA method is used to assess the managerial efficiency of eight institutions from Bragança district, since 2010 to 2013. The model evaluates each institution concerning the reduction of operational and staff costs incurred in providing social services to the number of users observed in each unit. A fair policy for the allocation of subsidies is designed according to the performance of institutions in order to support the regulator.

**Keywords**  
Third Sector; Children and Youth Households; DEA; Efficiency

## Distribution Supply Chain Inventory Planning Under Uncertainty

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This paper considers a multi-echelon inventory/distribution system formed by N-warehouses and M-retailers that manages a set of diverse products. A mixed integer linear programming model is developed, where product demand at the retailers is assumed to be not known. The problem consists of determining the optimal reorder policy by defining a new concept of robust retailer order, which minimizes the overall system cost, including ordering, holding in stock and in transit, transportation, transship-ping and lost sales costs. A case study based on a real retailer distribution chain is solved.

**Keywords**  
Supply chain management; inventory planning; mixed integer linear programming; uncertainty; scenario planning approach