

# Workshop on Efficiency and Productivity Analysis

September, 22, 2003



Universidade Católica Portuguesa

Centro Regional do Porto

R. Diogo Botelho, 1327

## Book of Abstracts & List of Participants

**FCT** Fundação para a Ciência e a Tecnologia  
MINISTÉRIO DA CIÊNCIA E DO ENSINO SUPERIOR Portugal

Apoio do Programa Operacional Ciência, Tecnologia, Inovação do Quadro Comunitário de  
Apoio III.



UNIVERSIDADE CATÓLICA PORTUGUESA

Centro Regional do Porto

## Performance Measurement in Retailing Organisations Using DEA

Clara F.Vaz, Escola Superior de Tecnologia e Gestão, Instituto Politécnico de Bragança,  
Portugal

A.S.Camanho, Faculdade de Engenharia, Universidade do Porto, Portugal

This study describes an application of DEA to the assessment of efficiency of grocery stores from a major retailer. The objective of the study is to assess both operational and commercial efficiency. These two perspectives are important for the managerial control of the store network performance. The operational perspective assesses the activities that take place at the store. The model analyses the ability to maximise the number of transactions and value of sales given the resources used (i.e., area, stock, operational costs and working hours). The effect of environmental variables on store performance, such as the population and the number of competitors in the surrounding area, is also analysed. The commercial perspective assesses the business of individual sections within the store (e.g., grossery, perishables, textiles). Some aspects of the activity of these sections are managed centrally (e.g., negotiation with suppliers regarding the price of the products and the choice of the references available at each store). Therefore, this model reflects the adequacy of the commercial policies to the store activity. The commercial efficiency of each section of the store is assessed comparing similar sections across all stores of the network. Finally, the operational and commercial efficiencies are confronted, in order to obtain an overall characterisation of the performance status of each store. The stores are further separated into clusters, in order to obtain insights that can be used by the organisation used as case study to improve efficiency and productivity.