

# **Resilience of Logistics Service Providers Facing a Port Strike: A Case Study**

**Helena Carvalho**

UNIDEMI, Dep. de Engenharia Mecânica e Industrial  
Faculdade de Ciências e Tecnologia, FCT, Universidade Nova de Lisboa  
2829-516 Caparica, Portugal  
[hmlc@fct.unl.pt](mailto:hmlc@fct.unl.pt)

**Virgínia Helena Machado**

UNIDEMI, Dep. de Engenharia Mecânica e Industrial  
Faculdade de Ciências e Tecnologia, FCT, Universidade Nova de Lisboa  
2829-516 Caparica, Portugal  
[vhm@fct.unl.pt](mailto:vhm@fct.unl.pt)

**Ana Barroso**

UNIDEMI, Dep. de Engenharia Mecânica e Industrial  
Faculdade de Ciências e Tecnologia, FCT, Universidade Nova de Lisboa  
2829-516 Caparica, Portugal  
[apb@fct.unl.pt](mailto:apb@fct.unl.pt)

**Susana Garrido Azevedo**

CEFAGE-UBI - Departamento de Gestão e Economia  
University of Beira Interior, Edifício Ernesto Cruz  
6200-209 Covilhã, Portugal  
[sazevedo@ubi.pt](mailto:sazevedo@ubi.pt)

**Virgílio Cruz-Machado**

UNIDEMI, Dep. de Engenharia Mecânica e Industrial  
Faculdade de Ciências e Tecnologia, FCT, Universidade Nova de Lisboa  
2829-516 Caparica, Portugal  
[vcm@fct.unl.pt](mailto:vcm@fct.unl.pt)

## **Abstract**

The purpose of this paper is to study the impact of a stevedores' port strike on logistics service providers. It aims to analyze the negative effects caused by this disruption, and the strategies logistics service providers may implement to sustain their performance levels and quickly recover from disruption. With this objective, a case study comprising three logistics service providers is developed. There are evidence that "Handling and management cargo delay", "Delay in deliver of orders" and "Incapacity to fulfill orders" are the stevedores' port strike negative effects with high impact and frequency. Because of these negative effects the logistics service providers' key performance indicators related to reputation, loss of capacity and operation stoppage are diminished.

## **Keywords**

Resilience, Port Operations, Logistics Service Providers, Supply Chain















**Virgínia Helena Machado** (Ph.D in Industrial Engineering) is Assistant Professor of Industrial Engineering at Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Portugal. She develops his research activities at UNIDEMI (R&D Unit in Mechanical and Industrial Engineering). Her main research interests include supply chain management, supply chain risk management, reverse logistics, and inventory management. She is author of several papers published in scientific journals, books and international conferences.

**Ana Paula Barroso** is Assistant Professor at Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Portugal. She holds MSc in Operational Research and Systems Engineering and PhD in Systems Engineering from Universidade Técnica de Lisboa, Portugal, and develops his research activities at UNIDEMI (R&D Unit in Mechanical and Industrial Engineering). Her research interests include supply chain management, supply chain risk management, reverse logistics, management paradigms and strategies, and simulation. She has papers published in international journals, books and international conferences.

**Susana Garrido Azevedo** holds a Ph.D. in Management. She is Assistant Professor and coordinator of the MBA - Master in Business Administration in the Department of Business and Economics at University of Beira Interior (UBI) – Portugal. Is researcher in the CEFAGE-UBI (Center for Advanced Studies in Management and Economics of the Universidade de Évora) and the UNIDEMI (R&D Unit in Mechanical & Industrial Engineering) at Universidade Nova de Lisboa. She has research interests in: sustainability, green indices, supply chain management, lean, green and resilience supply chain management paradigms, and logistics. She is a member of the editorial board of several top journals.

**V. Cruz-Machado** received the Ph.D. degree in computer-integrated manufacturing from Cranfield University, Bedfordshire, U.K. He is currently a Full Professor of industrial engineering at Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Caparica, Portugal. He coordinates post-graduate programs in industrial engineering, project, and lean management. He teaches operations and production management and has published more than 150 papers in scientific journals and conferences, in addition to having supervised 50 M.Sc. and Ph.D. students. His main scientific activities are directed to the design of lean supply chains. He is the president of UNIDEMI (R&D Unit in Mechanical & Industrial Engineering).