ENHANCING CYBERSECURITY RESILIENCE: AN ANALYSIS OF DORA AND NIS2 IN THE EU DIGITAL ECONOMY

George Cristian Gruia*
University Titu Maiorescu, Bucharest, Romania

Abstract
This article investigates the pivotal role of the European Union's Digital Operational Resilience Act (DORA) and Network and Information Security Directive 2 (NIS2) in bolstering cybersecurity resilience amid escalating threats to sensitive data in the digital economy. Employing a descriptive methodology, the study contextualizes the shift in cybersecurity discourse from questioning if to when an attack will occur, highlighting the urgency for proactive regulatory frameworks. It describes the scope of DORA, targeting financial entities such as banks and insurance firms and NIS2, which extends to essential and important sectors like transportation and manufacturing, offering a comparative analysis of their mandates. Key requirements—including governance, risk management, incident reporting within 24 hours (NIS2), and third-party oversight—are examined in detail, alongside enforcement mechanisms such as administrative fines, remedial orders, and operational restrictions. The analysis reveals non-compliance risks, substantial penalties and reputational damage, with small financial institutions particularly vulnerable to market exclusion. Furthermore, the study shows some practical solutions, such as the Emulex Secure Fibre Channel Host Bus Adapters, which encrypt data in transit to meet regulatory standards. Findings indicate that while compliance entails significant initial costs, the long-term benefits—data protection, operational continuity, and consumer trust—outweigh these investments. The article concludes by advocating for the strategic adoption of advanced cybersecurity technologies to align with DORA and NIS2, ensuring resilience against evolving threats like ransomware and quantum computing risks in the EU's interconnected digital landscape.

Keywords
NIS2, DORA, EU, regulation, differences, operational risk.

JEL Classification
G28, F14, F21, M15

* Corresponding author, **George Cristian Gruia** – george.gruia@prof.utm.ro .