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Exploratory Data Analysis for Digital Maturity Level Analysis: A Case Study of Türkiye

Aliye Atay¹, Duygu Aghazadeh¹¹University of Turkish Aeronautical Association, Turkey

ABSTRACT

Digital transformation is a critical enabler of innovation, productivity, and competitiveness in the service industry. This study applies exploratory data analysis (EDA) to examine the digital maturity level of Türkiye's service sector, offering a data-driven perspective on its current state and developmental needs. Using data sourced from the Turkish Statistical Institute (TÜİK), industry reports, and digital maturity indices, the study explores the structural and contextual factors influencing the sector's digital transformation. Employing EDA techniques such as descriptive statistics, correlation analysis, and data visualization, the research identifies key patterns and relationships between digital infrastructure, workforce capabilities, technology adoption, and institutional support. The analysis reveals both strengths and gaps in the digital readiness of the service industry, with attention to regional variations and latent trends that are not immediately visible through conventional evaluation methods. Findings indicate that while progress has been made in areas such as connectivity and the adoption of digital tools, challenges persist in the workforce digital skills, innovation capacity, and consistent policy implementation. These insights are crucial for informing strategic decisions by policymakers, industry stakeholders, and researchers aiming to accelerate digital transformation in the service sector. This case study contributes to the broader discourse on digital maturity by showcasing how EDA can serve as a powerful tool for extracting actionable insights from complex datasets. The approach is replicable and adaptable, making it useful for comparative studies or longitudinal monitoring of digital progress in other sectors or countries.

KEYWORDS Digital Maturity; Exploratory Data Analysis; Digital Transformation; Data Visualization

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