Using Dynamic Data Envelopment Analysis and Multi-Criteria Decision-Making to Evaluate Taiwan's Regional Tourism Competitiveness and National Tourism Performance After Covid-19

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Abstract:

The COVID-19 pandemic heavily impacted global air travel. The United Nations World Tourism Organization (UNWTO) reported that the pandemic significantly reduced global tourism and the resultant revenue generated. The international tourism revenue loss between January and May 2020 amounted to $320 billion, at least three times that during the Global Financial Crisis, as per UNWTO data. Hence, this study employs dynamic data envelopment analysis (DEA) combined with multi-criteria decision-making (MCDM) to evaluate the global competitiveness and operating performance of Taiwan's tourism industry after the COVID-19 pandemic. Specifically, using the entropy weight method and technique for order of preference by similarity to ideal solution (TOPSIS), this study first identifies the influencing factors for tourism competitiveness; thereafter, it evaluates the internal value of the tourism industry using a dynamic DEA method; finally, this study discusses the influence of external factors using a longitudinal-transverse data regression model. Our findings reveal the development trends of Taiwan's tourism industry after the COVID-19 pandemic and can help Taiwan enhance its tourism competitiveness in the future.

Keywords:

COVID-19, Taiwan, tourism competitiveness.