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## Portuguese Airport Efficiency Analysis: The Case Study of Oporto

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### Abstract

The Oporto Airport located in the northern region in Porto city is crucial because is the only one located in the northern region. This airport had an increasing in number of passengers, sales revenue and accumulated investment during the last two decades, principally after the introduction and the operation of the Low Cost Companies since 2004 to the present. In order to determine if the last changes had an impact in the competitiveness of this airport, the main aims is to analyse the evolution of values of the technical efficiency and equate the results before and after the introduction of the LCCs in this airport. The methodology uses the Data Envelopment Analysis. Results show that the Oporto Airport efficiency increases highly after the introduction of LCCs since 2004. The main conclusions suggest the importance of the introduction of LCCs in the increasing efficiency of the Oporto Airport and the potential relation with tourism development in this region, but more strong studies are needed.

**Keywords:** Data Envelopment Analysis; technical efficiency; Oporto Airport; Low Cost Companies; tourism development

### 1. Introduction

In Portugal mainland there are three civil airports located one on the Northern (Oporto) and two in the South, namely, in Lisbon and Faro. The Oporto Airport (OPA) is crucial by its coverage and your influence goes up from the North of the country until quite the South. Despite the gap on information's sources from INE (2012) and INAG (2013) and ANA (2012) the OPA contribute about almost half of the passengers' traffic in Portugal mainland. In the tourism sector this airport is also crucial because is the main entrance of tourists on the North of the country. Since 2004 this airport started the operation of the Low Cost Companies (LCCs) together with the traditional full services airlines companies. The OPA volume of passenger's, accumulated investment and sales revenues, however, had an evolution on the opposite direction, towards the growth during the last decade, principally, after the introduction of LCCs, since 2004. Therefore, during this period (2004-2010) the number of passengers increasing about 80%, the accumulated investment infrastructure increasing 64% and sales revenue led to a huge increasing of 105%.

According to this results and the crucial importance of this airport in the national civil aviation industry, the intent of this work is to study the competitiveness of the introduction of the LCCs companies in the OPA. The main goal of this study is to determine if the LCCs companies led effectively to an increasing in the efficiency of the OPA. In order to achieve this goal the main aim of this work is to measure the levels of technical efficiency during a time horizon 1990-2011 in OPA by the airlines based on OPA, and compare the results before and after the introduction of the low cost companies (LCCs) in OPA, and relate these efficiency levels to some potential consequences in tourism in Porto and North of the Portugal. This paper contributes for airport managers and decision makers better generate insights to better adjusting measures to airport management and sectorial politics like tourism.

