**A Statistical Analysis of sky complexity, traffic variability and ATC productivity on cost effectiveness of Air Navigation Service Provider (ANSP)**

Eleni Jancovich, Mechanical Eng.

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**Λέξεις Κλειδιά:** Air Navigation Service Provider, Sky Complexity, cost effectiveness, air traffic variability, composite flight hours

The current study is mainly focused on factors affecting the cost effectiveness of the Eurocontrol Air Navigation Service Providers in 37 European countries. The ATM environment is specific and complex. Operations must be safe and efficient beyond any doubt, but also as inexpensive as possible. Aeronautical organizations perform benchmarking studies but they admit that their work is based on factual hypotheses and not on proper normative objective analysis.

In the current study six variables were used to make a statistical analysis of the cost effectiveness of European ANSP. Provision cost was the dependent variable whereas sky complexity, air traffic variability, composite flight hours and ATC controller productivity were the independent variables. A fifth dummy independent variable was used to differentiate between countries adopting the Euro and countries that do not use it.

A sophisticated statistical algorithm developed by SPSS software Inc. was used to evaluate the correlations between the defined variables. In the conclusions it is verified that Provision costs of ANSP are heavily affected by sky complexity and personnel productivity whereas, the effects of traffic variability and Composite flight hours are minimal.

[elenijancovic@gmail.com](mailto:elenijancovic@gmail.com),