

## DATA ENVELOPMENT ANALYSIS IN IMPROVING SECURITY LEVEL IN LOCAL GOVERNMENT UNITS\*

Jelena Jardas Antonić<sup>454</sup>

DOI: <https://doi.org/10.31410/EMAN.2018.992>

---

**Abstract:** *Digital transformation and global trends in Smart City development have brought on serious security challenges in governing smart data assets. The implementation of two-way communication between cities and citizens requires secure communication channels and efficient data management. Fast development of information communication technologies (ICT) demands for continues investments in new security options. In this paper, the author examined the efficiency of implemented security levels in local government units (LGUs) through Data Envelopment Analysis. The Data Envelopment Analysis enables benchmarking LGUs according to obtained results. The efficient LG units were further examined and were ranked using super-efficiency analysis. The inefficient LGUs can use the obtained results to improve their performance using projections and thus reach the efficiency frontier.*

**Jelena Jardas Antonić** works at Faculty of Economics Rijeka as the assistant professor and member of Quantitative Economics department. She graduated at the



Faculty of Humanities and Social Sciences in Rijeka and obtained a degree in Mathematics and Computer Science (teacher training).

In 2005, she completed Postgraduate Scientific Study Operational Research at the Faculty of Economics in Zagreb and in 2011, got the PhD degree.

**Key words:** *Information security, LGU, Data Envelopment Analysis, super-efficiency*

---

---

\* This paper has been financially supported by the University of Rijeka, for the project ZP UNIRI 10/17  
<sup>454</sup> University of Rijeka: Faculty of Economics, Ivana Filipovića 4, 51000 Rijeka, Croatia