Water utilities efficiency analysis model adapted to inequality in water access

Summary

In 2010, the United Nations General Assembly declares water as a human right, making the right to water legally binding, i.e. member states have an obligation to provide water to all. However, there is still discrimination on social and economic grounds. Major world development organizations have proposed solutions to overcome the problem, including benchmarking. Benchmarking is widely used in the water services industry to improve operators 'efficiency, but few studies have considered the issue of equality in their assessments and those who have done so have used partial methods that do not allow a global view of operators' efficiency to provide services to low-income populations. That is, so far, no research has been developed on total metric benchmarking methods to address the issue of equal access to water.

Thus, the objective of the present research was to overcome this frontier of knowledge. In order to develop a Data Envelopment Analysis (DEA) model capable of dealing with inequalities in water access, it was first necessary to raise the most appropriate methodological approaches and variables for developing countries. Of course, special attention was given to the variable responsible for representing inequality in access. With the adapted DEA model, comparisons were made with traditional DEA models to verify the influence on the analysis results. The results pointed to a great influence on the water operator scores.

These results suggest that the insertion of water service universalization issues significantly alter operators' ratings in benchmarking studies and this may have an adverse influence on operators focusing their work on overall efficiency, which in addition to reducing resources, issues quality of service and maximization of services to serve everyone, avoiding discriminatory processes in access to water.

Keywords

Benchmarking, performance evaluation, data envelopment analysis, Human Right to water.

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