Measurement and assessment of efficiency in technical and vocational education in Colombia using Data Envelopment Analysis

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Abstract

The aim of this research is the measurement of the relative efficiency in the training centers of the National Learning Service (SENA, in its Spanish acronym), being the most important public agency of technical and vocational education in Colombia. Therefore, this measurement helps for the continuous improvement of the institution and its sector. Execution of this research includes three main phases: firstly a characterization of the technical and technological education sector in Colombia and the SENA. Secondly, the measurement of relative efficiency of the training centers through Data Envelopment Analysis Methodology (DEA) and finally an analysis of results, which help to identify possible causes of inefficiency and some good practices. This research also allows demonstrating DEA applicability in the efficiency measurement in the technical and technological education sector, and concludes with results which overall represents a good mean efficiency indicator for the entity. However, some areas and work fronts need attention, because these have wide margins to improve in the training centers, because these have the worst efficiency scores.

Keywords: Data Envelopment Analysis, efficiency, further education, public management, technical education.

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