Models evaluating courier and messenger companies in Poland

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Abstract: Data Envelopment Analysis (DEA) is a well-established, popular, and often used method for efficiency evaluation of units from all sectors, both commercial and non-profit organisations, of any scale of operations. Network DEA models are a relatively recent approach used to examine the efficiency of decision-making units (DMUs) having an internal structure of sub-processes. The article presents the concept of DEA network models in estimating the efficiency of courier and messenger companies with relations to their business clients. The considerations are supported by an example of data concerning leaders from the sector of couriers and messengers in Poland and one of the biggest and most popular online stores. The results are compared with the traditional DEA approach. In addition, to measure the reliability for DEA scores, the jack-knife procedure was performed. The author proves the usefulness of network DEA as a research and management tool.

Keywords: courier and messenger companies; network DEA; efficiency; evaluation.

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