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EXAMINING THE IMPACT OF HUMAN RESOURCE PRACTICES ON ORGANIZATIONAL PERFORMANCE BY USING THE AHP/DEA MODEL

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Abstract. *This study proposes an analytical hierarchical process/data envelopment analysis (AHP/DEA) model for investigating the associated importance of input/output (human resource practices/organizational performance) variables. A practical case study involving 36 electronics firms was thus used to demonstrate the application of the proposed AHP/DEA ranking model and examine the impact of human resource practices on organizational performance. The study results are presented in two parts. First, a different perspective on the AHP/DEA ranking model is introduced with respect to the cross-evaluation mechanism. Second, the proposed model is demonstrated to provide more information regarding the influence of human resource practice variables on organizational performance variables. The model should not only enable decision-makers to obtain useful information regarding firm efficiency, but it should also allow them to identify which variable(s) are more important to a firm looking to achieve good results. The AHP/DEA model has been extensively adopted to statistically investigate the efficiency of decision-making units (DMUs). Information used to differentiate input/output variables from others may be also valuable in decision-making, providing an alternative to simply relying on efficiency and non-efficiency information.*

Keywords: AHP, DEA, Efficiency, Human resource practices, Organizational performance

1. **Introduction.** Data Envelopment Analysis (DEA), introduced by Charnes et al. [1], is an effective means of identifying efficiency points for multiple decision-making units (DMUs). DEA includes inputs and outputs in a single measure of productive efficiency, using various mathematical forms of the ratio of outputs to inputs [1-3]. DEA uses an extreme point method and compares each DMU with only the "best" DMUs. In each DEA, the input/output of a DMU is regarded as the target under the constraints of inputs/outputs, and then the weight of input to output is derived to obtain the efficiency for a DMU. DEA differs from other approaches in that each input and output can be measured in their natural physical units without a weighting system being applied to collapse the different units in another single unit measure. First proposed by Satty [3],