Outsourcing evaluation system based on AHP/ANP approach for LED industry

Chang-Lin Yang
Department of Business Administration
Fu Jen Catholic University
Taiwan, R.O.C.

Ching Lien Huang
Department of Industrial Management
Lunghwa University of Science and Technology
Taiwan, R.O.C.

Shan-Ping Chuang *
Department of Information Management
Huafan University
No. 510, Chung-Cheng Rd.
Hsinchuang City, Taipei Hsien 24205
Taiwan, R.O.C.

Abstract
Betting coordinate buyer and supplier efforts to improve productivity and competitive advantage in a supply chain is an important issue. Many studies have proposed models, principles, and criteria to evaluate and select the supplier. This study proposes a measurement model for generating performance indicators and evaluating supplier performance in order to help managers to realize the advantages and disadvantages of suppliers. The analytical hierarchy process (AHP) and the analytical network process (ANP) are utilized to determine the weight of each criterion when generating the performance model. Finally, this study uses a data sample of an light emitting diode (LED) manufacturer in Taiwan and company’s three main suppliers to test the evaluation model.

Keywords: light emitting diode (LED), Performance measurement, Analytic hierarchy process (AHP), analytical network process (ANP)