

Modeling the Carry-Over Effects of the Intangible Advertising Capital into Dynamic Data Envelopment Analysis

Li-Ting Yeh, Dong-Shang Chang, Shih-Heng Yu

Department of Business Administration, National Central University, 300 Jhongda Rd., Jhongli City, Taoyuan County, 320 Taiwan, ROC

Abstract

For yielding best performance, firms have to investigate what tangible resources and intangible capital they have owned in order to generate feasible business strategies. The output performance not only depends on input level but also be affected by the carry-over of intangible capital stock. In this study, the two-stage approach is developed along with the intangible capital of each period is estimated from the time-series data, then set the estimated intangible capital as linkage input into the dynamic data envelopment analysis model for efficiency measurement. This study illustrates the methodology by an empirical application to evaluating the advertising efficiency of major automobile manufacturers in North America. The result demonstrates that the carry-over effect of intangible advertising capital can lead to changes in advertising efficiency.

Keywords: Dynamic Data Envelopment Analysis; Intangible Capital;

Carry-Over Effect; Advertising Efficiency