

Dynamic Pricing Model on the Internet Market

Ue-Pyng Wen^{1,*} and Yen-Hsiang Chen

Department of Industrial Engineering and Engineering Management, National Tsing Hua University
101, Section 2 Kuang Fu Road, Hsinchu, Taiwan 300, Republic of China

Abstract—In many industries, sellers have the opportunity to enhance their revenues through the dynamic pricing of their perishable products such as flight seats, hotel rooms, or seasonal fashion goods that become worthless if they are not sold by a specific time. Therefore, how to dynamically adjust the prices of perishable products through differentiating the purchased time and the amount of unsold items to maximize the revenue is an important issue. Due to the immediate response and lower menu cost on the Internet, the application of the dynamic pricing to the Internet market is especially appropriate. In this paper we construct a dynamic pricing model for selling a given stock of identical perishable products over a finite time horizon on the Internet. We then propose three theorems to demonstrate the properties of the expected revenue and the time thresholds in the model. A numerical example is presented to illustrate the model and its results.

Keywords—Dynamic pricing, Perishable products, Revenue management, Internet market

* Corresponding author's e-mail: upwen@ie.nthu.edu.tw