

The Optimal Price and Period Control of Complete Pre-Ordered Merchandise Supply

Miao-Sheng Chen¹ and Fu-Chien Tsai^{2,*}

¹Graduate Institute of Management Sciences, Nanhua University, Chiayi, Taiwan, R.O.C

²Graduate Institute of Management Sciences, Nanhua University, Chiayi & Meiho Institute of Technology, Pingtung, Taiwan, R.O.C

Received August 2007; Revised April 2008; Accepted April 2008

Abstract—This study addresses the problem of complete pre-ordered merchandise supply. We discuss the sale price and the supply period with the demand rate function of merchandise for customers and the ratio function of customers' willingness to wait for taking merchandise, wherein the supply period and the sale price at any point of time during the complete stock-out period are decision variables. The purpose of this study intends to seek the optimal supply period and the optimal price function at any point of time during the complete stock-out period for maximizing the unit time profit of complete pre-ordered store. The finding is for the periodical supply model of complete pre-ordered merchandise, the price which is a constant in the basic EOQ model is no longer an assumed condition, but a necessary condition for the optimal solution under the special assumptions of demand rate function and ratio function. Furthermore, for the members of decision-making team in a complete pre-ordered store, the outcomes of this study provide a guideline for the optimal supply opportunity, pricing strategies, promotion activities and sale practice of complete pre-ordered merchandise.

Keywords—Inventory management, Optimization, Pricing strategy, Complete pre-ordered, Price variability.

* Corresponding author's email: x3022@mail.meiho.edu.tw.