

# **Study on Sales System with Demand Affected by Delivery**

## **Lead Time**

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### **ABSTRACT**

For many consumers, the direct selling channel is more convenient than the traditional channel. Customers like to shop on websites, phone and TV because of the lower price and variety of products. In the meantime, customers increasingly focus more on service quality which affects direct selling channel more greatly. The delivery lead time is one of the major factors in service quality direct selling channel. Therefore, this research intends to study how the effect of delivery lead time on demand influences operations and management of a sales system..

The aim of this research is to probe into the sales price and the manufacturer capacity with the objective of maximizing total profit. A direct sales channel model with demand affected by both sales price and delivery lead time is constructed. The behavior pattern of the direct selling channel is studied by utilizing the developed model, numerical experiment and sensitivity analysis. Our results reveal that when the sales system is intended to operates for longer time, the sales price should be set higher. On the other hand, manufacturers can obtain huge profits in a short time when the sales price is set lower. If manufacturers' capacity is set higher, customers would be less likely lost. In contrast, if manufacturers' capacity is set lower, more potential customers may quickly be lost due to longer lead time. The outcome of analysis shows how major factors influence decision making and profits. Our findings may serve as a practical reference to enterprise in practice.

Keyword: Pricing 、 Delivery Lead Time 、 Sale Channel 、 Maximum total profit