

研究生：許耿豪

指導教授：梁高榮博士

國立交通大學工業工程與管理學系

## 摘要

拍賣時段與花卉底價對於切花拍賣價格有何影響？這是在花卉批發市場中經常被提及的兩個問題。而問題的答案涉及從一給定的資料庫中多項複雜的交易資料處理。舉例來說，要驗證時段與底價對花卉拍賣價格的影響必須透過各種維度的上捲、下挖、切丁、切片以及資料的篩選、排序等動作。本論文基於減少對交易資料複雜的處理，根據已有的資料庫建置一線上分析處理系統(OLAP)。建構的過程包含三個步驟；第一步為設計三階正規化綱要整合已存在的資料；第二步透過資料庫綱要轉化為雪花綱要圖建立一資料超市；第三步為透過資料超市產生一超方體供線上分析處理系統使用。驗證花卉拍賣價格與時段、底價有何關聯所需的資料便可輕鬆的線上分析處理系統取得。本論文中不僅僅架構了線上分析處理系統，更透過統計軟體分析對在時段與底價影響下切花拍賣價格的變化。



### 關鍵字

價格分析(Price Analysis)

花卉拍賣(Auctioned Flower)

線上分析處理(On-Line Analytical Process, OLAP)

底價影響(Reserve Price Effect)

時段影響(Timing Effect)

OLAP Based Price Analysis of Auctioned Cut Flowers  
under Timing and Reserve Price Effects

Student : Keng-Hao, Hsu

Advisor : Dr.Gau-Rong Liang

Department of Institute of Industrial Engineering & Management  
National Chiao Tung University

## Abstract

What are the timing and reserve price effects to the price of auctioned cut flowers? These are two frequently asked questions in flower wholesale marketplaces. Answering both questions involves many complicated manipulations of transactional data from a given database. For example, the hypothesis may be tested under various dimensions with level roll-up/drill-down, category slicing/dicing, data screening and sorting, etc. In this thesis, an On-Line Analytical Processing (OLAP) system constructed from the given database is proposed for reducing the complexity of the manipulation problem for transactional data. The construction procedure consists of three steps. First it is to design a 3rd normal form database schema for integrating consistent data. Second the database schema is transformed into a snowflake schema for building a data mart. Third a hypercube is generated from the data mart for the OLAP use. Then price-related hypotheses under the timing and reserve price effects can be easily tested with the data from the OLAP system. As a result, this thesis not only constructs the OLAP system but also tests many hypothesis for evaluating the timing and reserve price effects to the price of auctioned cut flowers.

### Key Words

Price Analysis  
Auctioned Flower  
On-Line Analytical Process, OLAP  
Reserve Price Effect  
Timing Effect