Data Science of Revenue

Course Lesson Topics List

Excel for Transaction Data Analysis

Importing RAW Data
The TRANSACTION_DATA file
Format as Table
Table Column Sort
Filter Table Column
Multiple Criteria Table Filtering
Naming Excel Tables
Insert and Delete Table Rows and Columns
Excel Table Cell Reference
Excel Table Total Row
Add OTA_COMM Table
VLOOKUP function
IFERROR function
IFERROR for GROSS RATE
ROUND formulas
CEILING and FLOOR formulas
More ROUND and CEILING
Date and Time in Excel
MONTH formula
WEEKDAY formula
Intro to IF function
JOIN and CONCATENATE
More Date Functions
LEFT and RIGHT functions
MID function
SUBSTITUTE and REPLACE functions
UPPER, LOWER, and PROPER text
Introduction to Pivot Tables
A Simple Pivot Table
Adding More Pivot Dimensions
GROUP Pivot Labels
FILTER BY
Pivot Table Report Filter
Value Field Settings
More Value Field Settings
Calculated Fields
Slicers
Pivot Table Formatting
Simple Pivot Chart
Multi-Dimension Pivot Chart
Changing Pivot Chart Type
Formatting any Excel Chart
More Excel Chart Formatting
Slicers with Pivot Charts
Pivot Table Drill Down
Referencing a Pivot Table
AVERAGE function
SUM function
COUNT function
Standard Deviation function
Minimum and Maximum function
QUARTILE function
AVERAGEIF function
SUMIF function

Excel (continued)

COUNTIF function
AVERAGEIFS function
SUMIFS function
COUNTIFS function
Nested Functions
MINIF Array function
MAXIF Array function
STDEV IF Array function
QUARTILE IF Array function
MINIFS and MAXIFS Array functions
STDEVIFS Array function
QUARTILEIFS Array function
Non-exact criteria filters

Probability & Statistics for Business Analytics

Excel Tables Sort and Filter
The SOHO_DATA file
Randomness and Frequency
Frequency Table
Averages for the Frequency Table
The Probability of an Event
Probability with the PMS data
The Standard Deviation
The Standard Deviation using PMS data
More Standard Deviation
Finding Outliers
The Normal Distribution
The Normal Distribution Curve in Excel
The Normal Distribution Formula
By Month Probability Analysis
By Period Probability Analysis
By Market Probability Analysis
By Channel Probability Analysis
By Days Out Probability Analysis
Expected Value Theory
EV of Revenue
EV of Revenue by Period

Understanding Transaction Databases

Your New World View
UI and Database
Relational Database
Simple PMS Schema
Important Definitions
PMS Vendors and Databases
ODBC
MS Query Wizard
MS Query Table View
MS Query of Excel files
Database Tables
Most Popular Databases

SQL for Transaction Data Analysis

Excel Tables
What is SQL?
Types of SQL
SELECT
FROM
WHERE
JOINS
ALIASES
GROUP BY
COUNT
AVG
STDEV

Pricing & Revenue Optimization

Decision Models for Pricing
Two Types of Revenue Models
History of Capacity Control
Capacity Control Graphically
Capacity Control Variables
Pricing Class in SOHO_DATA file
Capacity Control: The Manual Way
Littlewood's Rule
Littlewood's Math Solution
Littlewood's Rule in Excel
Expected Marginal Seat Revenue
Weighted Average Review
Class 1 Capacity Price Protection
Class 2 Capacity Price Protection
Capacity Control based forecast
Capacity Control vs. Dynamic Pricing
Counting in Capacity Control vs. Dynamic Pricing
Pricing Frequency Analysis
Fundamental Model of Revenue Economics
Core Assumption of Demand Analysis
Cumulative Frequency by Price
Dynamic Pricing Optimization Manually
Equation of a Demand Line
Dynamic Pricing Demand Analysis
The Revenue Function
Revenue Function and Accuracy of Estimates
Removing Outliers from the Range
A Better Revenue Formula
The Price Formula
Optimal Price Calculation
Optimal Pricing for Real Data
Peak Demand Optimization
Granular Optimization
Final Word on Optimization