

# Data Analytics of Hotel Revenue Discovery Topics List

This is very comprehensive and practical course, using real PMS data, that gives you the tools to perform Data-Driven, Mathematical Revenue Management. Through this resource, you will learn how to discover new revenue as you will implement a data-driven strategy, create and test robust forecasts, and build mathematical pricing models that will maximize profit from rooms, outlets and groups. This course also includes Excel for Hotel Data Analysis which enables an increase in your efficiency as you will learn how to use SQL plus other Excel tools to perform pricing analyses and increase efficiency in the time spent generating reports.

**No Mathematics or Programming Skills Required**

**Let's Get Smarter**

## SOHO121: Probability & Statistics for RM

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

## SOHO221: Mathematical Revenue Optimization

Decision Models	Weighted Average Review	Dynamic Pricing Demand Analysis
Two Types of RM Models	EMSR Class 1 Protection	The Revenue Function
History of Capacity Control	EMSR Class 2 Protection	Revenue Function and Accuracy of Estimates
Capacity Control Graphically	EMSR based forecast	Removing Outliers from the Rate Range
Capacity Control Variables	Capacity Control vs. Dynamic Pricing	A Better Revenue Formula
Rate Class in SOHO_PMS_DATA file	Counting in Capacity Control vs. Dynamic Pricing	Optimal Rate Calculation
SOHO221_CC file Overview	Rate Frequency in SOHO221_DP	Optimal Rates in SOHO221_DP2
Capacity Control: The Manual Way	Fundamental Model of Hotel RM	The Rate Formula
Littlewood's Rule	Core Assumption of Demand Analysis	Peak Demand Optimization
Littlewood's Math Solution	Cumulative Frequency by Rate	Room Type Optimization
Littlewood's Rule in SOHO221_CC file	Dynamic Pricing Optimization Manually	Final Word on Optimization
Expected Marginal Seat Revenue	Equation of a Demand Line	Bonus: Static Markups Destroy Profit

## SOHO321: SQL for PMS Data Analysis

Your New World View	MS Query of Excel files	WHERE
UI and Database	Room Master Tables	JOINS
Relational Database	Opera Tables	ALIASES
Simple PMS Schema	Visual One Tables	GROUP BY
Important Definitions	Excel Tables	COUNT
PMS Vendors and Databases	What is SQL?	AVG
ODBC	Types of SQL	STDEV
MS Query Wizard	SELECT	Recap
MS Query Table View	FROM	

## SOHO421: Excel for Hotel Data Analysis

Importing RAW Data	LEFT and RIGHT functions	AVERAGE function
The HOTEL_PMS_DATA file	MID function	SUM function
Format as Table	SUBSTITUTE and REPLACE functions	COUNT function
Table Column Sort	UPPER, LOWER, and PROPER text	Standard Deviation function
Filter Table Column	Introduction to Pivot Tables	Minimum and Maximum function
Multiple Criteria Table Filtering	A Simple Pivot Table	QUARTILE function
Naming Excel Tables	Adding More Pivot Dimensions	AVERAGEIF function
Insert and Delete Table Rows and Columns	GROUP Pivot Labels	SUMIF function
Excel Table Cell Reference	FILTER BY	COUNTIF function
Excel Table Total Row	Pivot Table Report Filter	AVERAGEIFS function
Add OTA_COMM Table	Value Field Settings	SUMIFS function
VLOOKUP function	More Value Field Settings	COUNTIFS function
IFERROR function	Calculated Fields	Nested Functions
IFERROR for GROSS RATE	Slicers	MINIF Array function
ROUND formulas	Pivot Table Formatting	MAXIF Array function
CEILING and FLOOR formulas	Simple Pivot Chart	STDEV IF Array function
More ROUND and CEILING	Multi-Dimension Pivot Chart	QUARTILE IF Array function
Date and Time in Excel	Changing Pivot Chart Type	MINIFS and MAXIFS Array functions
MONTH formula	Formatting any Excel Chart	STDEVIFS Array function
WEEKDAY formula	More Excel Chart Formatting	QUARTILEIFS Array function
Intro to IF function	Slicers with Pivot Charts	Non-exact criteria filters
JOIN and CONCATENATE	Pivot Table Drill Down	SOHO221 EMSR Formula review
More Date Functions	Referencing a Pivot Table	SOHO221 Frequency Table Formula review

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