Your Presenter

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A Brief Introduction to Data Visualization and Statistical Analyses Using JMP

Q2 BASAS Meeting

Introduction

JMP is for Data Visualization and Statistical Analysis

JMP Facts

- JMP 1.0 released in 1989
- Idea of SAS Institute co-founder John Sall
- Point and click solution (guided analysis)
- Graphics and statistics together

What Can JMP Do?

JMP is made for Engineers and Scientist

1) Data Visualization and Exploration
2) Quality Engineering - SPC, Control Charts and Capability
3) Gauge R&R and Measurement System Analysis
4) Design of Experiments
5) Reliability
6) Statistics, Modeling and Data Mining
7) JSL - programmable scripting language
8) Analytical Applications - Dashboard, Custom Views, App builder
9) Intergration with R and Matlab
10) Consumer and Market Research

Check out the web site...

jmp.com/applications/

Introduction

The Discovery Process from John Sall, JMP founder:

- "Data rarely confesses all its information easily. You have to explore it. You have to use multiple tools. The process should be as easy as possible and the tools as powerful as possible.

  When you get it right, after playing with various fits, the message can become clear. "

JMP and SAS Interaction Points

Example: Build an Analysis Report with SAS and JMP

- Get the Flu Data from the SAS Server
- Visualize Rates Across States
- Are Flu Rates clustered geographically? Can I show this in a picture?

Google_Flu_data_US

Stack Flu Rates

Flu Rate Trends by State

Transpose Flu Data for Clustering

- Cluster, Color and Save Clusters (Red Triangle/Hot Spot option)

Cluster

Join Data Tables

- States are colored and storted by cluster number

Graph Builder of Clusters

Map Clusters by State

Build This Analysis Flow in EG

- Use SAS to perform the data manipulation and Cluster Analysis
- Create a Stored Process that you can call from JMP
- Visualize the results in JMP
- See Enteprise Guide Project

Case Study: Pharma Tablet Production

Tablet Production

Manufacturing Process