Getting Started with IBM SPSS Statistics

Jarlath Quinn – Analytics Consultant

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Getting Started with IBM SPSS Statistics

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Just waiting for all attendees to join...

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FAQ's

- Is this session being recorded? Yes

- Can I get a copy of the slides? Yes, we'll email links to download materials after the session has ended.

- Can we arrange a re-run for colleagues? Yes, just ask us.

- How can I ask questions? All lines are muted so please use the chat panel – if we run out of time we will follow up with you.
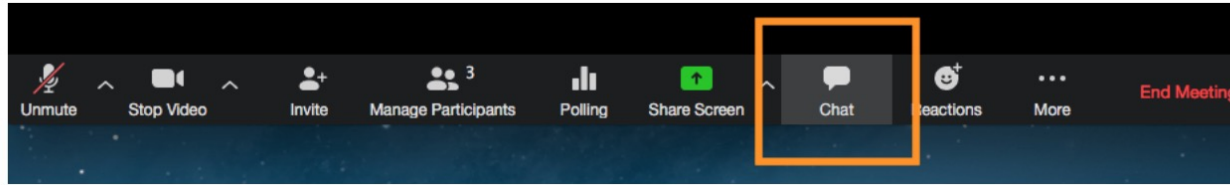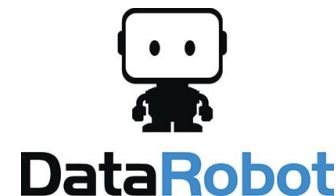
- Premier accredited partner to IBM, Predictive Solutions and DataRobot specialising in advanced analytics & big data technologies

- Work with open source technologies (R, Python, Spark etc.)

- Team each has 15 to 30 years of experience working in the advanced and predictive analytics industry

- Deep experience of applied advanced analytics applications across sectors
  – Retail
  – Gaming
  – Utilities
  – Insurance
  – Telecommunications
  – Media
  – FMCG

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Agenda

- An overview of SPSS Statistics

- Reading data from databases and spreadsheets

- Formatting the data

- Creating filters and banded fields

- Using SPSS Tables functionality to create publication-quality reports

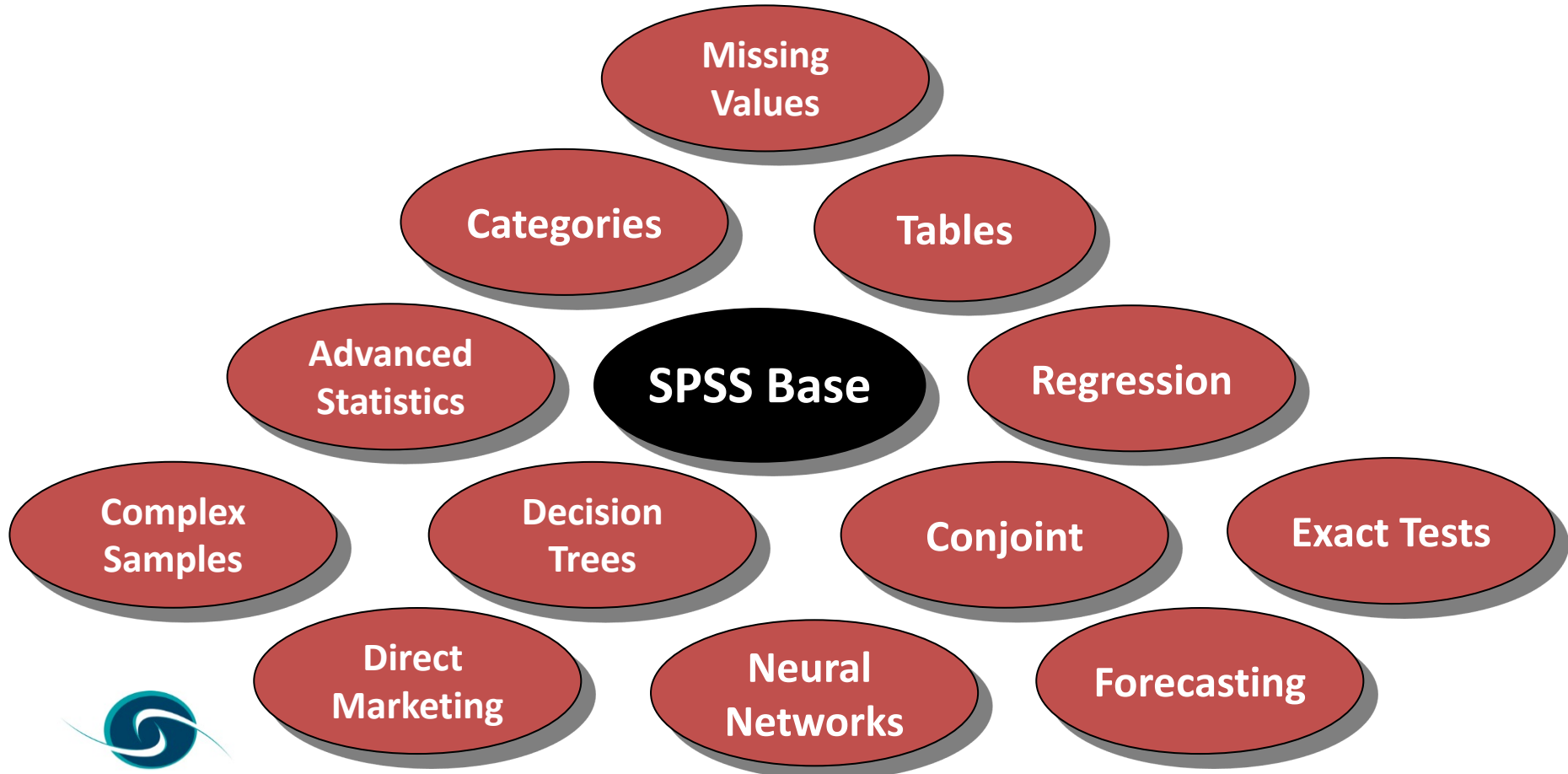- Finding statistically significant differences in groups

An Overview of IBM SPSS Statistics

SPSS Statistics

- Since 1968 one of the world's most popular data analysis and statistical interrogation platforms

- Used for everything from epidemiology studies , survey research and business reporting to direct marketing, credit risk, process modelling and asset management

- Statistics included in the base software:
    - Descriptive statistics: Cross tabulation, Frequencies, Descriptives statistics
    - Statistical Tests: T-test, ANOVA, Correlation
    - Prediction for numerical outcomes: Linear regression
    - Prediction for identifying groups: Factor analysis, Cluster analysis

IBM SPSS Statistics Base & Associated Modules

- Missing Values
- Categories
- Tables
- Advanced Statistics
- SPSS Base
- Regression
- Complex Samples
- Decision Trees
- Conjoint
- Exact Tests
- Direct Marketing
- Neural Networks
- Forecasting

SMART VISION Europe

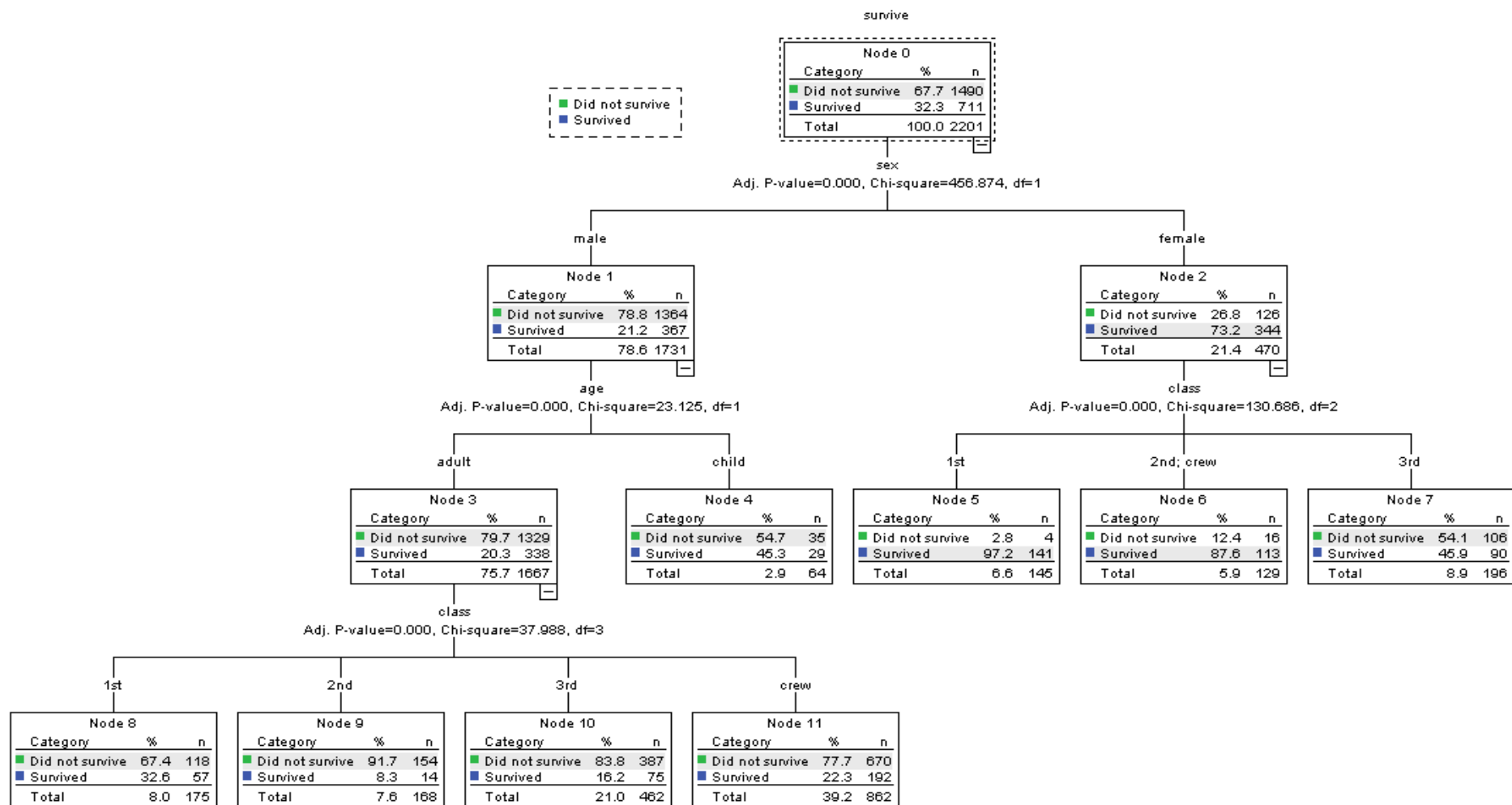A SELECT INTERNATIONAL COMPANY

Example Module:
IBM SPSS Decision Trees

SPSS Decision Trees

- Decision trees are used to:
  - Build predictive models
  - Create profiles of customers/employees/clients
  - Find key behavioural segments
- Very popular because they:
  - Represent models visually
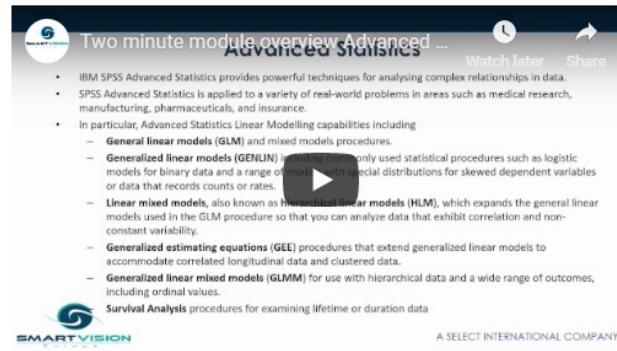 - Are easy to understand
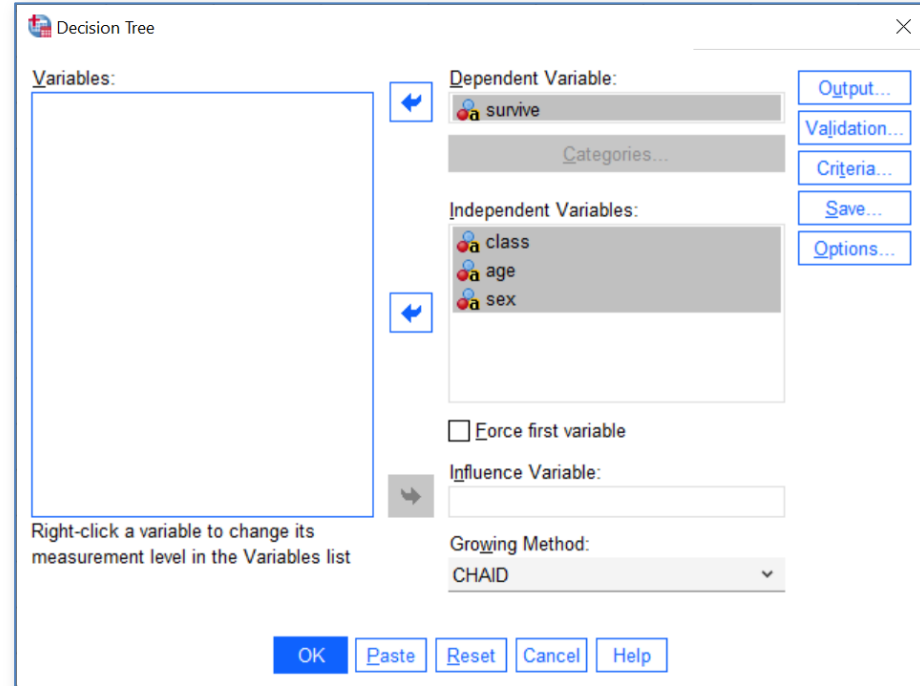
IBM SPSS Decision Trees

Smart Vision's Short Video Guides to SPSS Modules

IBM SPSS Advanced Statistics

Two minute module overview

What's in the Advanced Statistics module?

IBM SPSS Advanced Statistics provides powerful techniques for real-world problems in a variety of disciplines, including medical research, manufacturing, pharmaceuticals, and market research. It is an extremely 'analytically rich' SPSS Statistics module. Advanced Statistics includes a very wide range of multivariate procedures for investigating complex relationships in data. A number of the procedures in IBM SPSS Advanced Statistics are relatively technical in a statistical sense. In particular, Advanced Statistics encompasses General and Generalized Linear Modelling capabilities.

- General Linear Models allow you to model relationships and interactions between many factors. The general linear model incorporates a number of different statistical models: ANOVA, MANOVA, ANCOVA, Repeated Measures etc.

- An example of GLM would be one where we wish to see if males spend more money on average in a particular store than females when they have been given a particular discount coupon. The model can be made more complicated if we include more than one type of coupon or test to see whether region or age makes a difference.

- Generalized Linear Models are an extension of General Linear Models in that they are able to work with a greater range of data distributions. In particular, the model allows for the dependent variable to have a non-normal distribution.

SPSS modules

IBM® SPSS® Statistics Base

IBM® SPSS® Advanced Statistics

IBM® SPSS® Bootstrapping

IBM® SPSS® Categories

IBM® SPSS® Complex Samples

IBM® SPSS® Conjoint

IBM® SPSS® Custom Tables

IBM® SPSS® Data Preparation

IBM® SPSS® Decision Trees

IBM® SPSS® Direct Marketing

IBM® SPSS® Exact Tests

IBM® SPSS® Forecasting

IBM® SPSS® Missing Values

IBM® SPSS® Neural Networks

IBM® SPSS® Regression

IBM® SPSS® Bundles

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Three Key Capabilities

The most effective users of technology like SPSS Statistics are able to demonstrate skills in three key areas:

1. Reading and formatting data

2. Transforming and manipulating data

3. Analysis and deployment of results

Let's take a closer look

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Additional Resources

- <u>SPSS FAQs</u> everything from finding out what you have installed to how to merge files or change the language

- <u>Video Guides</u> a wide range of SPSS "how to" topics with mini demos

- <u>SPSS Software</u> information on products, modules and pricing

- <u>Eat your greens</u> blog series on statistical testing and procedures

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- **Sourcing Software**
  - You can buy your analytical software from us often with discounts
  - Assist with selection, pilot, implementation & support of analytical tools
  - http://www.sv-europe.com/buy-spss-online/
- **Training and Consulting Services**
  - Guided consulting & training to develop in house skills
  - Delivery of classroom training courses / side by side training support
  - Identification & recruitment of analytical skills into your organisation
- **Advice and Support**
  - offer 'no strings attached' technical and business advice relating to analytical activities
  - Technical support services

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Thank you

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