INTRODUCTION

In the socioeconomic and business context, conducting research, data management and data analysis are imperative for informed decision making. The availability of several datasets and research techniques open the gateway of conducting systematic research which will be helpful for consumers, businesses and organizations. A sound knowledge about the use of SPSS as a data management and analysis tool is very beneficial for the researchers. This course introduces you to a range of advanced statistical modelling techniques within SPSS Statistics and covers how and when they should be used.

DURATION

2 Weeks

TOPICS TO BE COVERED

Introduction and Overview

- Goals of the Course
- Taxonomy of Methods
- General Approach
- Summary

Discriminant Analysis

- How Does Discriminant Analysis Work?
- The Elements of Discriminant Analysis
- The Discriminant Model
- How Cases are Classified
- Assumptions of Discriminant Analysis
- A Two-Group Discriminant Example
- Checking Variance Assumptions
- Running a Discriminant Analysis
- The Discriminant Coefficients
- Classification Statistics 2- 18 Prediction
- The Assumption of Equal Covariance
- Modifying the List of Predictors
- Casewise Statistics and Outliers
- Adjusting Prior Probabilities
- Validating the Discriminant Model
- Stepwise Model Selection
- Three-Group Discriminant Analysis
- Summary

Binary Logistic Regression

- How Does Logistic Regression Work?
- The Logistic Equation
- The Elements of Logistic Regression
- Assumptions of Logistic Regression
- A First Example of Logistic Regression
- Interpreting Logistic Regression Coefficients
- Making Predictions
- The Accuracy of Predictions
- Estimated Probabilities

- Checking Classifications
- Residual Analysis
- Stepwise Logistic Regression
- Summary

Multinomial Logistic Regression

- Multinomial Logistic Model
- Assumptions of Multinomial Logistic Regression
- A Multinomial Logistic Analysis: Predicting Credit Risk
- Interpreting Coefficients
- Classification Table
- Making Predictions

Survival Analysis (Kaplan-Meier)

- What is Survival Analysis
- Concepts
- Censoring
- What to Look for in Survival Analysis
- Survival Procedures in SPSS
- An Example: Kaplan-Meier
- Results
- Extensions
- Summary

Cluster Analysis

- How Does Cluster Analysis Work?
- Types of Data Used for Clustering
- What to Look at When Clustering
- Methods
- Distance and Standardization
- Overall Recommendations
- Example I: Hierarchical Cluster Analysis
- Cluster Results
- Obtaining Mean Profiles of Clusters
- Relating Clusters to Other Variables
- Summary of First Cluster Example
- Example II: K-Means Clustering
- Running K-Means Clustering
- Summary

Factor Analysis

- Uses of Factor Analysis
- What to Look for When Running Factor Analysis
- Principles
- The Idea of a Principal Component
- Factor Analysis Versus Principal Components
- Number of Factors

- Rotation
- Factor Scores & Sample Size
- Methods
- Looking at Correlations
- Principal Components Analysis with an Orthogonal Rotation
- Principal Axis Factoring with an Oblique Rotation
- Summary

Loglinear Analysis

- What are Loglinear Models
- Relations Among Loglinear, Logit Models and Logistic Regression
- What to Look for in Loglinear and Logit Analysis
- Assumptions
- Procedures in SPSS that Run Loglinear or Logit Analysis
- Example: Analysis of Location Preference (Model Selection)
- Running the Analysis
- Significance Tests
- Coefficient Interpretation
- Summary
- Appendix: Logit Analysis with Specific Model (Genlog)
- Results

Multivariate Analysis of Variance

- Why Perform MANOVA
- Assumptions of MANOVA
- What to Look for in MANOVA
- An Example

- Examining the Output
- Post Hoc Tests
- Summary
- Post Hoc Testing of Means

Repeated measures Analysis of Variance

- Why do a Repeated Measures Study
- The Logic of Repeated Measures
- Assumptions
- Example: One Factor Drug Study
- Examining Results
- Further Analysis
- Planned Comparisons
- Summary
- Examining Results
- Tests of Assumptions
- Profile Plots
- Extensions

REQUIREMENTS

Participants should be reasonably proficient in English. Applicants must live up to Indepth Research Services (IRES) admission criteria.

METHODOLOGY

The instructor led trainings are delivered using a blended learning approach and comprises of presentations, guided sessions of practical exercise, web based tutorials and group work. Our facilitators are seasoned industry experts with years of experience, working as professional and trainers in these fields. All facilitation and course materials will be offered in English. The participants should be reasonably proficient in English.

ACCREDITATION

Upon successful completion of this training, participants will be issued with an Indepth Research Services (IRES) certificate.

TRAINING VENUE

The training is residential and will be held at IRES training Centre. The course fee covers the course tuition, training materials, two break refreshments, lunch, and study visits.
All participants will additionally cater for their, travel expenses, visa application, insurance, and other personal expenses.

ACCOMMODATION

Accommodation is arranged upon request. For reservations contact the Training Officer.
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