Gujarat National Law University

2nd Workshop on Empirical & Applied Statistical Software Tools for Research:

Qualitative and Quantitative Approaches

(IBM-SPSS, JASP, NVivo & Others)

4th – 9th February, 2025

ORGANIZED BY:

Centre for Law & Economics (CLE)
&
Centre for Empirical & Applied Research in Law & Interdisciplinary Studies (CEARLIS)

GUJARAT NATIONAL LAW UNIVERSITY

Introduction

This workshop on Empirical & Applied Statistics is designed to offer an understanding about the fundamentals of statistical analysis. Further, this workshop introduces the basics of statistics to students in order to summaries numerical and categorical data obtained from surveys, experiments, etc. The topics to be covered include different data types, measures of location, variability, shape, and association between variables. The participants are expected to learn the fundamental concepts of estimation, confidence intervals, hypothesis testing and apply appropriate tests for a population mean, proportion, variance and difference, independence, and goodness to fit.

IBM SPSS, NVivo, and JASP are Windows-based software programs widely used for data editing and analysis across various fields. These tools are especially popular among market researchers, health researchers, government entities, educational institutions, and other organizations that require robust data processing capabilities. They are designed to handle large datasets and offer a range of advanced analytical features. IBM SPSS is primarily used for statistical analysis in social sciences, market research, and healthcare, allowing users to perform complex data manipulation, statistical tests, and predictive modeling, making it ideal for survey data analysis. NVivo is specialized in qualitative data analysis, often used for research involving interviews, focus groups, and open-ended survey responses. It provides powerful tools for coding and analyzing qualitative data, identifying themes, and conducting detailed queries. JASP, an open-source statistical program, is commonly used in fields like psychology, social sciences, and education, offering a wide variety of statistical analyses with an easy-to-use interface. These software tools are crucial for researchers and professionals who need to process and analyze both quantitative and qualitative data to extract valuable insights.

Potential benefits to Participants

- It will enable participants to understand the importance of empirical and applied analysis in research.
- It will enable participants to use the tools and techniques of both qualitative and quantitative approaches in their respective research studies.

Number of participants:

30 Participants or till seats last.

Registration are limited to 30 Participants on first come first serve basis

Methodology:

Lectures, case study, data analysis with the help of SPSS and e-content.

Eligibility criteria for participants:

- □ Under Graduate students & Post Graduate students pursuing (Law, Social Science, Commerce, Management and Science) & PhD Scholars.
- □ Professional and Academician

Fees: 750/- for GNLU Participants
1500/- for External Participants (without accommodation)

Mode: Physical Mode (On Campus)
10:00 AM to 05:30 PM (Approx. Timing)

Participants are required to make payment through the link given below:

https://axisbpayments.razorpay.com/pl_PipUsctbb0FPDd/view

Registration link:

https://forms.gle/SvXtFERXM1UFqXS4A

Last date of registration- 2nd February 2025

Tentative Course Detail

Topic

Types of Data and Scale of Measurements

- ☐ Primary and Secondary Data
- ☐ Cross Section, Time Series, Panel Data
- ☐ Cardinal and Ordinal Data
  which includes Ratio, Interval, Nominal and Ordinal Scale
- ☐ Questionnaire Preparation

Sampling and Sample Size

- ☐ Different Probabilistic and Non-Probabilistic Sampling Techniques
- ☐ Calculating Ideal Minimum Required Sample Size using **G*power**

Introduction of IBM SPSS Statistics

- ☐ Creating file, define a variable, entering data, modified data etc.

Frequency Distribution and Charts

- ☐ Frequency distribution
- ☐ Pie chart
- ☐ Bar chart
- ☐ Chart editing

Descriptive Statistics

- ☐ Measures of Central Tendency
- ☐ Measures of dispersions
- ☐ Measures of Skewness, Kurtosis

Reliability Test

- ☐ Cronbach Alpha and Other Methods for Reliability of an instrument

Multiple Response Analysis

- ☐ Multiple Response Frequency

Multiple Response Cross-tabulation

TURF Analysis

- ☐ Total Unduplicated Reach Frequency

Testing of Normality

- ☐ Nine different ways to test for normality including graphical and scientific tests.

Parametric Tests

- ☐ One sample t-test

- ☐ Independent Sample t-test
- ☐ Paired / Related Sample t-test
- ☐ One Way ANOVA
- ☐ ANCOVA

Non-Parametric Tests

- ☐ Mann – Whitney Test
- ☐ Wilcoxon signed-rank test
- ☐ Kruskal-Wallis test
- ☐ Runs Test

Analysis of Association

- ☐ Cross Tabulation
- ☐ Cross Tabulation with Layer
- ☐ Chi-square test
- ☐ Phi Coefficient
- ☐ Creamer's V Coefficient
- ☐ Contingency Coefficient

Correlation Analysis

- ☐ Pearson Technique
- ☐ Spearman Technique
- ☐ Kendall's Tau 'b'
- ☐ Partial Correlation

Regression Analysis - 1

- ☐ Assumptions for the Linear Regression
- ☐ Bivariate Linear Regression
- ☐ Interpretation of Estimated Coefficients, R-square, ANOVA etc.

Regression Analysis - 2

- ☐ Multiple Regression
- ☐ Testing of (I) Autocorrelation, (ii) Heteroscedasticity (iii) Multicollinearity (iv) Normality of Residuals

Log Linear and Non Linear Regression

- ☐ Estimating Elasticities
- ☐ Curve Estimation (quadratic and cubic model)

Time Series Regression Analysis

- ☐ Liner Trend Regression
- ☐ Sequential Chart
- ☐ Use of Expert Modeller including ARIMA and SARIMA for forecasting

Factor Analysis

- ☐ Exploratory Factor Analysis using Principle Component Analysis (PCA)

Cluster Analysis

- ☐ Hierarchical Cluster
- ☐ K-Mean Cluster

Discriminant Analysis

- ☐ Bivariate Discriminant Function

General Liner Models - 1

- ☐ Interaction Effects
- ☐ Two Way Analysis of Variance (Two Way ANOVA)

General Liner Models – 2

- ☐ Multiple Comparisons
- ☐ Three Way Analysis of Variance (Three Way ANOVA) and the influence of Covariates

General Liner Models – 3

- ☐ Multivariate Analysis of Variance (MANOVA) and Covariates

Missing Value Analysis (MVA)

- ☐ Missing Value Analysis in Survey Data

Qualitative data analysis utilizing NVivo and MaxQDA.

- ☐ Data entry and file import
- ☐ Data collection using N-Capture and MaxQDA extensions
- ☐ Manual and auto-coding
- ☐ Word cloud creation
- ☐ Tree map development
- ☐ Sentiment analysis
- ☐ Graphical data visualization
- ☐ Mixed-method analysis
- ☐ Converting codes into variables
- ☐ Literature review organization
- ☐ Cross-tabulation of codes
- ☐ Text and word frequency queries
- ☐ Narrative and numerical integration
- ☐ Exporting visualizations and reports.

Profile of Resource Person:

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