ROHINI COLLEGE OF ENGINEERING AND TECHNOLOGY, PALKULAM

BUSINESS RESEARCH METHODS

Unit IV -Applications of Statistical Software for Data Analysis

Statistics

is the science of making effective use of numerical data relatingto groups of individuals or experiments. It deals with all aspects of this, including not only the collection, analysis and interpretation of such data,but also the planning of the collection of data, in terms of the designof surveys and experiments.Traditional or manual method takes lot of time. Whereas statistical softwaremakes the statistical analysis more simpler and accurate result

Introduction:

Statistical software, or statistical analysis software, refers to tools that assist in the statistics-based collection and analysis of data to provide science-based insights into patterns and trends. They often use statistical analysis theorems and methodologies, such as regression analysis and time series analysis, to perform data science.

Business intelligence is the practice of gathering and analysing data and then transforming it into actionable insights. Statistical software help business intelligence in many different ways. It adds more value to your business' proprietary data. Statistics can be challenging, but with the right BI tools, they can be easy. Hence it is always necessary to select an appropriate tool for analysis. If you find difficulty with statistical analysis, you can get help from Online data collection statistics tutoring services.

STATA and its Importance in Data Analysis

Stata is one of the most common and widely used statistical software among researchers in the world. Researchers use Stata in the field of economics, biomedicine, and political science. It's powerful statistical software that permits users to manage, analyze, and generate graphical

visualizations of data. Researchers use researchers in various fields like biomedicine, economics, and political science to inspect data patterns. It supports both a graphical user interface and command-line, making the use of the software more intuitive.

Over the past few years, STATA programs of scholarly articles indexed in Google Scholar have raised over 55 per cent. Regardless of industry and field, this software tool's value increased, it becomes one of the most important future employment assets. It becomes one of the necessary qualifications which employers look, among their candidates. Our Statistics Tutoring Services help you with all aspect of understanding and working in particular software.

Because of its rising popularity, the Department of Economics at American University has chosen Stata as the primary statistical software used among core and elective economics courses. Among its numerous capabilities, it comprises some built-in commands to clean and manage data. It engages with fundamental statistical analysis, executes advanced econometric procedures, including time-series regression models and panel, and creates visually stunning graphs and tables.

Stata enables one to write their own code or use menus to achieve their analysis. It supports importing data in various formats, including CSV and spreadsheet (including Excel) formats. Its file formats are platform-independent, allowing users of various operating systems to share their datasets and programs easily. Four different versions of Stata in the market. They are

- Stata/MP- for multiprocessor computers
- Stata/IC – This is the slandered and commonly used version
- Stata/SE – which support large databases
- Small Stata- which is a smaller version used for educational purpose. (Which helps students, using this software throughout the program) .If you are unfamiliar with this particular software, you can get help from Stata Tutor Online.

Applications of Stata

- Stata has a user-friendly graphical user interface. The best feature of its user interface is, it can be easily adapt among various users regardless of their experiences.

- It also has data management features. With the help of Stata, you can easily connect the data sets and reshape them.

- Stat's graphical user interface (GUI) includes menus and dialogue boxes. Through these dialogue boxes, users can access various useful features, such as data management, data analysis, and statistical analysis. The details, graphics, and statistical menus are all easily accessible.

SPSS importance in Research & Data Analysis

SPSS -Statistical Package for the social sciences is a software program combined in a single package. The main application of SPSS is analyzing data. They are widely used in a social science-related research project to analyze enormous data. That can be used in surveys, market research, data mining, etc.; with the help of this, researchers can easily identify the particular product's demands in the market. Based on the result, they can change the business or research strategy work. Generally, SPSS is like a store or organize the provided data, which can be used later to produce the desired output. It is designed in a way to handle a huge set of data.

SPSS Helps in Research & Data Analysis Programs:

SPSS is innovative software that researchers majorly use, which helps them process complex data in simple steps. Working with complex data is a time-consuming process, but SPSS software can easily handle and easily operate with some techniques (provided by the software). These techniques help analyse, transform, and produce a characteristic pattern found between different data variables. It also assists in getting a quality output through graphical representation to understand the result easily. It is always necessary to learn from the best Online SPSS Programming Tutors to understand and get familiar with particular software. Here, some of the factors that are answerable for the process of data handling and its execution.

1. Data Transformation:

The technique is used to transform the format of the data. Once changed particular data type, it integrates the similar data type in one specific place, which becomes easy to manage. You can introduce various kind of data into SPSS, and it helps in changing the structure base on its system specification and requirement. It means that even after you change the operating system, SPSS can still work on old data.

2. **Regression Analysis:** It helps understand the relationship between dependent and interdependent variables, which are stored in a particular data file. It also describes how changes in the interdependent variable can affect the dependent data. The fundamental need of regression analysis is to understand the type of relationship which is found among various variables.

3**. ANOVA (Analysis of variance)**: A statistical approach that helps compare the events, groups or processes, and finds out the variation between them. It enables one to understand which method is more appropriate for executing a particular task. By looking at the outcome, you can find the feasibility and effectiveness of the particular method. If you find difficulty with the SPSS function you can get help from Online SPSS Programming Tutors.

4. **MANOVA (Multivariate analysis of variance**): It is used to compare random variables whose value is unknown. MANOVA technique can also be used to analyse different populations and what factors can affect their choices.

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