Statistics in HR

LEARNING OBJECTIVE:

- Learn the core concepts of statistics and how to apply them within HR.
- Create actionable insights by grasping the concept of statistical significance and the different types of variables.
- Acquire the knowledge to carry out unbiased sampling and develop a solid understanding of probability.
- Learn statistical tests such as correlation analysis, T-test, and ANOVA.
- Learn to perform more advanced statistical tests in the form of regression analyses.
- Learn about Structural Equation Modelling, the first step towards Machine Learning.

WHAT YOU WILL LEARN:

MODULE 1: INTRODUCTION TO STATISTICS

► 1: Introduction to Statistics

- Understand how statistics affect your everyday life
- Learn how statistics can help us in HR
- Avoid potential pitfalls of statistics

► 2: Measures of Central Tendency

- Understand the value and application of the mean average
- Know which alternative measures you can use
- Learn to interpret the distribution of data

► 3: Spread of Data

- Describe the concept of range and interquartile
- Grasp core concepts such as variance and standard deviation
- Understand what homoscedasticity and z-scores are

▸ 4: Plots, Charts & Outliers

- Understand the importance of visualizing data
- Learn different ways of visualizing statistics
- Learn to create accurate pie charts, histograms, and other visualizations

MODULE 2: METHODOLOGY

► 5: Sampling and Bias

- Understand the use of statistics in surveys
- Overview of the different types of survey sampling
- Learn to avoid dangerous biases

► 6: Probability

- Understand what probability entails
- Learn to calculate probability
- Describe notions such as accuracy and specificity

► 7: Hypotheses and Significance

- Learn to draft hypotheses
- Understand the concept of falsification
- Learn about significance levels and p-values

► 8: Dependent and Independent Variables

- Understand the difference between dependent and independent variables
- Learn how control, moderator, and mediator variables work

MODULE 3: BASIC STATISTICAL TESTS

► 9: Correlation Analysis

- Learn what correlation is and how to visualize it
- Illustrate Pearson's R and Spearman's Rho statistical tests
- Understand assumptions and results

▸ 10: T-test

- Understand the logic behind the T-test
- Learn when to apply different types of T-tests

- Understand the assumptions of the T-test

► 11: ANOVA

- Understand why and when we should use ANOVA
- Learn when to apply the different types of ANOVA
- Know the assumptions for ANOVA

MODULE 4: ADVANCED STATISTICAL TESTS

► 12: Linear Regression Analysis

- Learn the elements of the regression model
- Understand the linear relationship and testing the regression analysis
- Know the assumptions of the regression model

► 13: Multiple Regression Analysis

- Learn when and how to use the multiple regression analysis
- Learn to interpret the adjusted R squared
- Understand the assumptions for multiple regression analysis

► 14: Logistic Regression Analysis

- Learn when to use it
- Know how it differs from multiple regression analysis
- Understand the assumptions of logistic regression

► 15: Structural Equation Modelling

- Learn what it is and when to use it
- Understand what latent variables are
- Know how to interpret a Pathway Analysis