Applied HR Analytics and Data Visualization Training

Duration: **2 Day**

BİLGİNÇ IT Academy
info@bilginc.com
bilginc.com

Overview

Human resources professionals are increasingly expected to transform operational data into meaningful information, analyze findings, and use those insights to support strategic business decisions. For HR to evolve from a traditional support function into a strategic business partner, organizations need effective measurement and data management practices supported by analytics, business intelligence, and machine learning.

Applied HR Analytics and Data Visualization Training is a two-day, case-based program designed to help HR professionals analyze workforce data, interpret results, and apply data-driven insights to human resources decisions.

Throughout the course, participants will explore how to prepare reports for web and mobile platforms using HR business intelligence tools. They will also work with analytical methods and machine learning techniques to examine HR datasets and interpret the results.

The program aims to enable participants to conduct statistical analyses and generate actionable insights using suitable tools, without requiring previous experience in programming or algorithms.

Prerequisites

Basic Excel knowledge is sufficient to attend this course. Previous programming or algorithm experience is not required.

Who Should Attend

- Human resources professionals
- Department managers
- Compensation and reporting specialists
- Graduates interested in careers involving HR analytics and data
- HR directors and managers seeking to strengthen their digital and analytical capabilities

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What You Will Learn

By the end of this training, participants will be able to:

- Understand HR Analytics principles and strategic applications.
- Collect, clean, and analyze human resources data.
- Define HR KPIs and metrics to evaluate performance.
- Create dashboards and visual reports using Excel and business intelligence tools.
- Perform basic statistical analyses using SQL, Excel, R, and Weka.
- Apply regression, correlation, decision trees, and data mining techniques.
- Conduct predictive analyses for employee turnover risk, performance, and workforce needs.
- Interpret analytical results to support data-driven HR decisions.

Outline

Day 1: HR Data, Analytics, and Visualization

1. Human Resources Information Systems

- The relationship between big data and human resources
- The three fundamental Vs of big data
- The evolution of HR information systems from operational requirements to strategic priorities
- Data quality and methods for improving it

2. Human Resources Analytics

- Understanding HR Analytics
- The HR Analytics Value Pyramid
- Strategic HR management, HR analytics, and HR metrics
- Examples of HR KPIs used globally
- Implementing HR analytics within organizations
- Identifying problem areas and determining strategic priorities

3. Data Visualization in HR Analytics

- Business Intelligence applications in human resources

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- How business intelligence relates to data analytics
- Understanding data models and how to create them
- Developing an effective research strategy

4. Data Collection and Cleaning

- Writing basic SQL queries
- Categorizing datasets
- Cleaning and handling missing data

5. Fundamental Analysis Methods

- Basic data visualization using boxplots and dot plots
- Mean, median, standard deviation, and their relationships
- Performing regression analysis with Weka
- Calculating and interpreting correlation coefficients using Excel and R
- Detecting outliers in datasets

6. Practical Case Study

- Creating an Excel dashboard
- Reporting a prepared dataset through web and mobile tools
- Sharing the reporting dataset as part of a business intelligence exercise

Day 2: Analytical Techniques, Data Mining, and Case Studies

7. Analytical Methods

- Chi-square tests
- Performing linear regression with Weka and Excel
- Building decision trees using Weka
- Forecasting with Excel 2013 and later versions
- Data visualization techniques
- Communicating analytical findings effectively

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- Action planning and communication
- Critical success factors for HR analytics

8. Data Mining

- Understanding data mining
- Creating histograms
- Practical data mining exercises using CSV files

9. Case Study 1: HR Business Intelligence

- Continuing the reporting activities introduced on the first day
- Reporting HR datasets through web and mobile business intelligence tools

10. Case Study 2: Identifying Employee Attrition Risk

- Identifying employees who have a higher likelihood of leaving the organization

11. Case Study 3: Performance Prediction

- Using analytical methods to predict employee performance

12. Case Study 4: Employee Characteristics and Performance

- Investigating relationships among employee age, tenure, time in position, and performance results

13. Case Study 5: Workforce Requirements Forecasting

- Forecasting future workforce requirements

14. Case Study 6: Expenditure, Training, and Business Outcomes

- Analyzing how advertising expenditure and training hours relate to business results

15. Case Study 7: Employee Demographics and Performance

- Examining relationships between employee characteristics, including gender and organizational unit, and performance outcomes