

Hypothesis_Testing

2025-12-05

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##
## --- ONE-SAMPLE T-TEST (RATING vs 3.5) ---
##
## One Sample t-test
##
## data: df$RATING
## t = 58.902, df = 9446, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 3.5
## 95 percent confidence interval:
## 3.738656 3.755088
## sample estimates:
## mean of x
## 3.746872
##
## Welch Two Sample t-test
##
## data: blr and non_blr
## t = 3.8077, df = 1381.8, p-value = 0.0001464
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## 0.02009152 0.06279256
## sample estimates:
## mean of x mean of y
## 0.06300722 0.02156518
##
## --- ANOVA TEST (PACKAGE by INDUSTRY) ---
##
##          Df Sum Sq Mean Sq F value    Pr(>F)
## INDUSTRY    11    2.52  0.22881    6.856 1.28e-11 ***
## Residuals 8914 297.50  0.03337
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## 523 observations deleted due to missingness
##
## --- CHI-SQUARE TEST (INDUSTRY vs INDIA.HQ) ---
##
## Pearson's Chi-squared test
##
## data: tab
## X-squared = 968.32, df = 55, p-value < 2.2e-16
##
## --- PEARSON CORRELATION (YEARS.OLD vs PACKAGE) ---
```

```
##
## Pearson's product-moment correlation
##
## data:  corr_df$YEARS.OLD and corr_df$PACKAGE
## t = 2.3115, df = 8543, p-value = 0.02083
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.003799556 0.046179638
## sample estimates:
##          cor
## 0.02500083
```

Across the hypothesis tests, several clear patterns emerge:

- Average ratings are significantly higher than 3.5.
- Bangalore companies offer higher packages than other cities.
- Industry strongly influences package.
- Industry and headquarters location are strongly associated.
- Company age has only a negligible relationship with package offered.