

Hypothesis_Testing

2025-12-05

```
##  
## --- 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.