Two tail hypothesis

Science, Statistics

Two Tail Hypothesis

TEST 1

Null hypothesis there is no significance difference between gender mean and intrinsic means (Ho): μ2-μ1= 0

Alternative hypothesis there is significance difference between gender mean and intrinsic mean (H1): μ2-μ1≠0

Hypothesis Test: Independent Groups (t-test, pooled variance)

Gender

Intrinsic

1. 50

5. 079

mean

0. 50

0. 755

std. dev.

66

66

n

130

df

-3. 5788

difference (Gender - Intrinsic)

0. 4121

pooled variance

0. 6419

pooled std. dev.

0. 1117

standard error of difference

0. 05

hypothesized difference

-32. 47

t

3. 13E-64

p-value (two-tailed)

Since α= 0. 05 and confidence level is 95%; t- statistic=-32. 47, critical value is ±1. 96we reject null hypothesis because p-value 3. 13-E64 which is less than 0. 05 and adopt alternative hypothesis.

The analysis can be used by the manager to study if there significance difference between gender and intrinsic job satisfaction in the company. This would enable the manager to make a plan on which gender to recruit and to plan for any training.

TEST 2

Null hypothesis: There is no magnitude differences between Position mean and intrinsic mean (Ho); μ2-μ1= 0

Alternative hypothesis: There is magnitude differences between position mean and extrinsic mean (H1); μ2-μ1≠0

Hypothesis Test: Independent Groups (t-test, pooled variance)

Position

Extrinsic

1. 29

5. 386

mean

0. 46

0. 416

std. dev.

66

66

n

130

df

-4. 0985

difference (Position - Extrinsic)

0. 1905

pooled variance

0. 4365

pooled std. dev.

0. 0760

standard error of difference

0. 05

hypothesized difference

-54. 60

t

1. 67E-91

p-value (two-tailed)

The analysis can be used by the manager to study if there is significance

difference between position and extrinsic job satisfaction in the company. This would enable the manager to make a plan on which strategy to use either Hourly Employee or Salaried Employee in respect of job satisfaction. Since α= 0. 05 and confidence level is 95%; t- statistic=-54. 60, critical value is ±1. 96 we reject null hypothesis because p-value 1. 67 E-91 is less than 0. 05 and adopt alternative hypothesis.

T-test is used when the sample are small; it can be used to test the difference in population mean, that is when the population is n≤30 and the standard deviation of the population is estimated from the standard deviation of the sample(Anderson, D. at el 2009). Whereas z-test is used when the population mean is known together with standard deviation (Anderson, D. at el 2009).

Actually, it is because researchers do not have enough time to study the whole population. To study the entire population would be tedious and time consuming; therefore, representative sample from the population is appropriate in the data collection. In statistical inferences conclusions are drawn about attribute of population, e. g. the standard deviation or mean based on sample data analysis. Supposing there was a need to calculate the average weight of the population of youths in America, it would be unreasonable except at massive cost to weigh up each individual and calculate the mean weight. Another scenario is that testing process may be very destructive such that sampling becomes the only sufficient way. Thus, sampling is quicker, cheap and the only appropriate method of getting information about the population. In sampling the population has equal chances of probability to be chosen.

Reference

Anderson, D. R., Sweeney, D. J., Williams, T. A., & Anderson, D. R. (2009). Modern business statistics with Microsoft Office Excel. Mason, OH: South-Western Cengage Learning.