Estimation and Text of Hypothesis

Hypotheris: A statement about the notione of a population.

Example: Studento who eat broakfast will periform betten on a stat exam than soludents who do not eat breakfast.

Test of hypothesis: The istatistical procedure which is used to verify any statement on assumption about population parameter on the basis of Sample observations is known as test of Significance.

Null hypothesis: The hypothesis which we one going to test for possible rejection under the essumption that it is true.

Null hypothesis is denoted by Ho;
Ho: My = M2

Alternative hypothesis: Each of all possible hypothesis other than null hypothesis is called attennative hypothenis and is usually denoted by H1: Buth by the in the religious of the contract of the

Type-I ennow: The ennow of nejecting to (accepting the which is true is called Type- I ennous and

Type-II ennon: The ennon of accepting null hypothessis Hy when it is false is called Type II ennon. Type II ennon is denoted by & B.

Level of significance: The probability of Type-I ennon, is called level of significance. Vanidace.

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P-Value: 12 Provalue is the gleast is possible of values of day for which we can neject the null hypothesis,

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Comment on dip-value: to doit :2130/01/19 20100011 O If PRY, is highly statistical significant. @ IP P 25%; It is raignifficaint of both air single and 3 If P>10%; It is not solgnificant + 11: Commonly word Torot Statistic: 1) The normal test (3-tend) is summer doings 3 The (+) test 3 chi- square (x2) -test to month sat mino (1-) @ F-test IL BABIT bolloo & selol- & ti node ili Application of Chi-square (72) tent: 1) To test the algnificance of a specified population I st agnificance. Variance. 10 To test the goodness of fit of a distribution. 3 To test the independence of attributes. @ 1-10 Host the Idequality of several connelation coefficients. Illia 3dl +35/317 ADD SID doidy 175 6 To test the homogenity of several testa. © To test the homogeneity of several population variance.

Problem: Two hundred engineers were interviewed and classified according to their nepults and job satisfaction.

The distribution of graduation by nepults and job satisfaction are given in the following contingency table.

Resulls	Job Satisfaction		
- VI - 0 0 0 0	. Yes	No	
Excellent	20	70	
Good	45	65	

compute the value of chi-square for the above dota.

Solution: computation table:

	Repult	Job sa	Total	
		4000	NO	
	Excollent	20(On)		1
Ì	GIDD	45 (02)	65 (023)	110 (Pa)
	Total	65	195	200(N)
		(e)	(65)	4.

Here,
$$F_{11} = \frac{R_{1} \times C_{1}}{N} = \frac{90 \times 65}{200} = 29.25$$

$$E_{12} = \frac{R_{1} \times C_{2}}{N} = \frac{90 \times 135}{200} = 60.75$$

$$E_{21} = \frac{R_{2} \times C_{1}}{N} = \frac{10 \times 65}{200} = 35.75$$

 $x^{2} = \frac{(0_{11} - E_{11})^{2}}{(0_{12} - E_{12})^{2}} + \frac{(0_{12} - E_{12})^{2}}{(0_{21} - E_{21})^{2}}$ $\vdots \quad x^{2} = \frac{(0_{11} - E_{11})^{2}}{(0_{21} - E_{12})^{2}} + \frac{(0_{21} - E_{21})^{2}}{(0_{21} - E_{21})^{2}}$ $= \frac{(20-29.25)^{2}}{29.25} + \frac{(70-60.75)^{2}}{60.75} + \frac{(45-35.75)^{2}}{35.75}$ 74.25 63 2.93 + 1.41 + 2.39 + 1.15 Compute the value of coil-square .88.F

Scholice computation - dable: (onA)

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