

SURVEY

**FACTORS THAT AFFECT ON SHOPPING
CENTERS SELECTION**

$$Y = SS0 + SS1X1 + SS2X2 + SS3X3 + SS4X4 + SS5X5 + SS6X6 + SS7X7 + SS8X8 + SS9X9$$

THERE ARE:

- Y-your favorite shopping center
- X1-age
- X2-location
- X3-raiting
- X4-number of boutiques
- X5-advice from friends
- X6-design
- X7-game library
- X8-area
- X9-price

REGRESSION

•	Source	SS	df	MS	Number of obs =	51
•	-----+-----				F(3, 47) =	1.23
•	Model	7.26303807	3	2.42101269	Prob > F =	0.3089
•	Residual	92.4232364	47	1.96645184	R-squared =	0.0729
•	-----+-----				Adj R-squared =	0.0137
•	Total	99.6862745	50	1.99372549	Root MSE =	1.4023

Y	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
-----+-----						
X2	0.2046206	0.2961503	-0.69	0.493	-.8003982	.391157
X5	0.1337833	0.1293437	-1.03	0.306	-.3939893	.1264227
X8	0.2717567	0.1853627	-1.47	0.149	-.6446583	.1011449
cons	4.694907	1.465329	3.20	0.002	1.747045	7.642769

$$Y = 4.694907 + 0.204 * X_2 + 0.133 * X_5 + 0.271 * X_8$$

When all the independent variables are equal to zero, the intercept of the model is 4.694907

When I increase in X_2 and hold second independent constant, satisfaction rate will increase by 0.2046206

When I increase in X_5 and hold another independent constant, dependent variable will increase by 0.1337833

When I increase in X_6 and hold second independent constant, satisfaction rate will increase by 0.2717567.

T-TEST

a) $H_0: \beta_2 = 0$ no linear relationship

$H_1: \beta_2 \neq 0$ linear relationship does exist between x and y

$$t = (\beta_2 - 0) / \text{se}(\beta_2) = 0.2046206 / 0.2961503 = 0.69$$

$$T = (0, 0.025, 3) = 3, 182$$

$t < T$, therefore we fail reject at 5% significance level and conclude that β_2 is statistically insignificant at 10% level

T-TEST

b) $H_0: \beta_5=0$ no linear relationship

$H_1: \beta_3 \neq 0$ linear relationship does exist between x_j and y

$$t = | 0.1337833 / 0.1293437 = 1.0343$$

$$T(0.025, 2) = 3.182$$

$t < T$, therefore we fail reject at 5% significance level and conclude that β_3 is statistically insignificant at 10% level

T-TEST

c) $H_0: \beta_8=0$ no linear relationship

$H_1: \beta_6 \neq 0$ linear relationship does exist between x and y

$$t = 0.2717567 / 0.1853627 = 1,466088082424$$

$t < T$, therefore we fail reject at 5% significance level and conclude that β_4 is statistically insignificant at 10% level

F-TEST

$H_0: \beta_2 = \beta_5 = \beta_8 = 0$

H_1 : at least one of the β_i is not equal to zero

f-statistics = 1.23

$F(3, 47) = 2.201$

R-SQUARE, R².

The value of R² is 0,01 means that 1% of the variation in satisfaction rate can be explained by the variation of reputation, social life rate, building, feedback, accreditation.

Auto Correlation

- Breusch-Godfrey LM test for autocorrelation

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- lags(p) | chi2 df Prob > chi2

- -----+-----

- 1 | 0.142 1 0.7067

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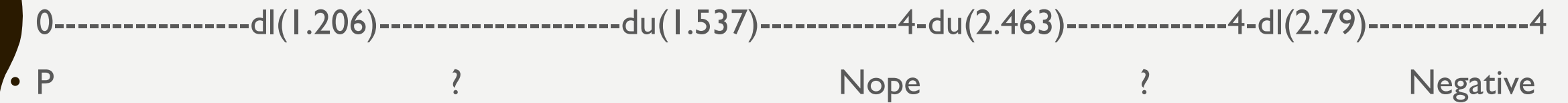
- H0: no serial correlation

HETROCODECETICITY TEST

- Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
 - Ho: Constant variance
 - Variables: fitted values of Y
- $\chi^2(1) = 0.04$
- Prob > $\chi^2 = 0.8364$

DURBIN-WATSON TEST

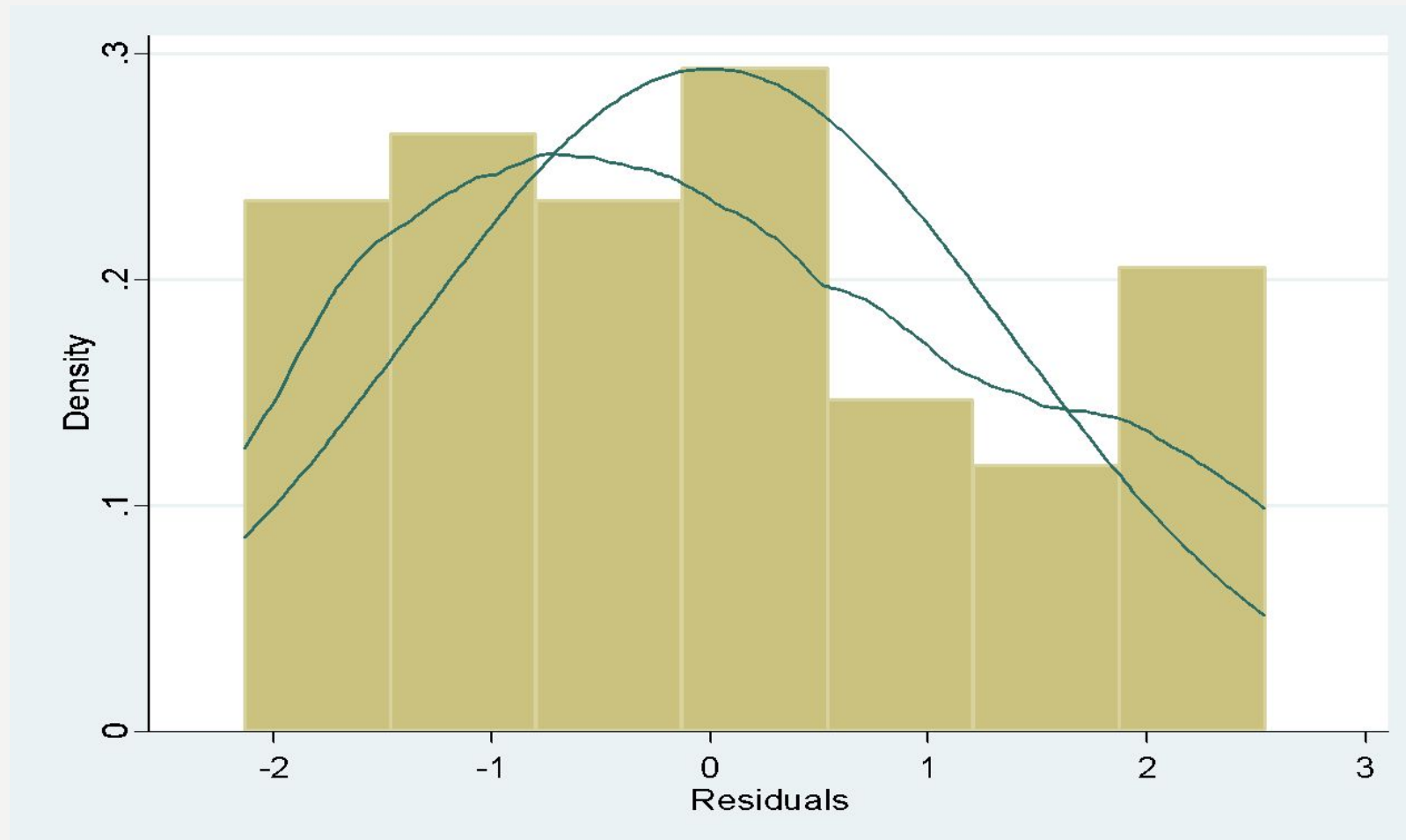
Durbin-Watson d-statistic(4, 51) = 1.857508



- No autocorrelation

Normality test

- Jarque-Bera normality test: 3.129 Chi(2) 0.2092



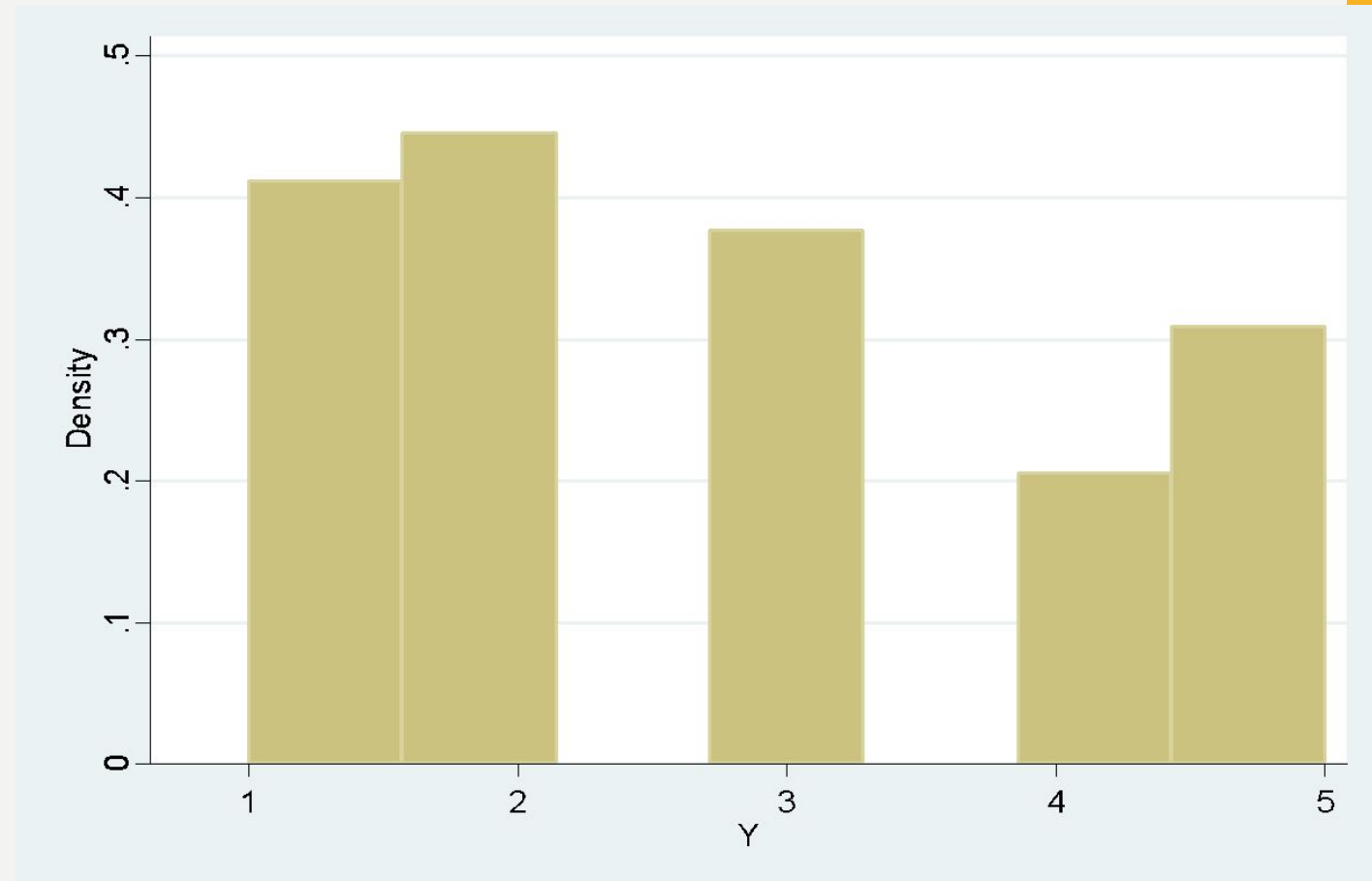
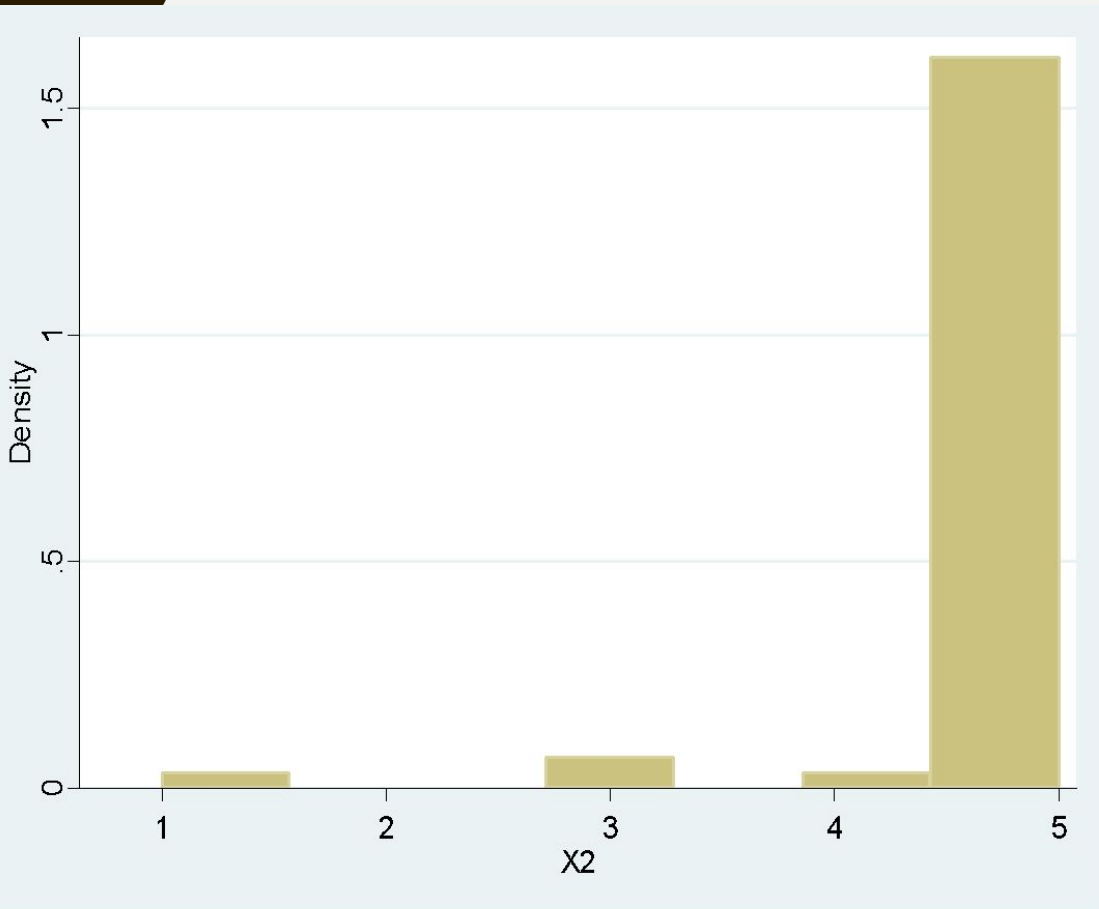
MULTICOLLENARITY TEST

•	Variable	VIF	I/VIF
•	-----+	-----	
•	X5	1.07	0.937834
•	X2	1.04	0.957690
•	X8	1.02	0.978161
•	-----+	-----	
•	Mean VIF	1.04	

RAMSEY TEST

- Ramsey RESET test using powers of the fitted values of Y
- Ho: model has no omitted variables
- $F(3, 44) = 0.01$
- $\text{Prob} > F = 0.9980$

HISTOGRAM



HISTOGRAM

