LAMPIRAN

7. LAMPIRAN

Lampiran 1. Penentuan Jumlah Responden

Penentuan jumlah responden ini dilakukan secara acak dengan metode random - sampling, dengan menggunakan rumus sebagai berikut :

$$n = \frac{N \cdot \sigma^2}{(N-1)D + \sigma^2} \qquad\qquad D = \frac{B^2}{4}$$

Keterangan :

n = jumlah responden

N = jumlah total populasi

σ = standart deviasi berdasarkan penelitian pendahuluan

B = pendugaan pada tingkat keyakinan 95%

D = nilai standar sesuai dengan tingkat signifikansi 95%

Hitung :

B = 0,35

N = 160 siswa

σ = 1,38

$$D = \frac{0,35^2}{4} = 0.03$$
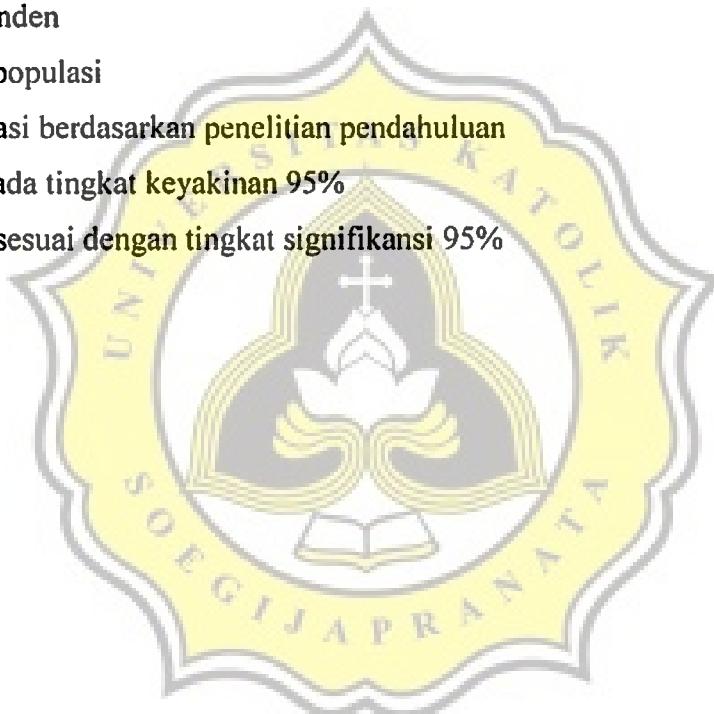
$$n = \frac{N \times \sigma^2}{(N-1)D + \sigma^2} = \frac{160 \times 1,38^2}{(160-1)0,03 + 1,38^2} = 46 \approx 50$$

Lampiran 2. Worksheet dan Kuesioner Uji Ranking

Worksheet Uji Ranking Hedonik

Tanggal Uji   :

Jenis Sampel   : *Toffee* rasa buah strawbery

Identifikasi sample	Kode
Toffee dengan *merk* Sugus	A
Toffee dengan *merk* Fruit Tella	B
Toffee dengan *merk* Station Rasa	C
Toffee dengan *merk* Kino	D

Kode kombinasi urutan penyajian

1 = ABCD	6 = BACD	11 = CABD	16 = DABC
2 = ACBD	7 = BADC	12 = CADB	17 = DACB
3 = ABDC	8 = BCAD	13 = CBAD	18 = DBAC
4 = ADBC	9 = BCDA	14 = CBDA	19 = DBCA
5 = ACDB	10 = BDCA	15 = CDAB	20 = DCAB

Penyajian

Panelis	Urutan Penyajian	Kode Sample			
1, 21, 41	1	862	223	756	544
2, 22, 42	2	245	398	954	537
3, 23, 43	3	458	183	266	522
4, 24, 44	4	396	765	174	459
5, 25, 45	5	522	138	496	984
6, 26, 46	6	498	369	133	585
7, 27, 47	7	298	163	759	946
8, 28, 48	8	665	743	488	127
9, 29, 49	9	635	593	854	711
10, 30, 50	10	653	749	522	475
11, 31	11	489	824	611	172
12, 32	12	538	721	259	986
13, 33	13	216	967	532	859
14, 34	14	446	287	618	925
15, 35	15	849	556	624	932
16, 36	16	914	628	396	282
17, 37	17	337	843	562	924
18, 38	18	993	725	134	842
19, 39	19	459	731	563	642
20, 40	20	325	553	932	797

Rekap Kode Sampel
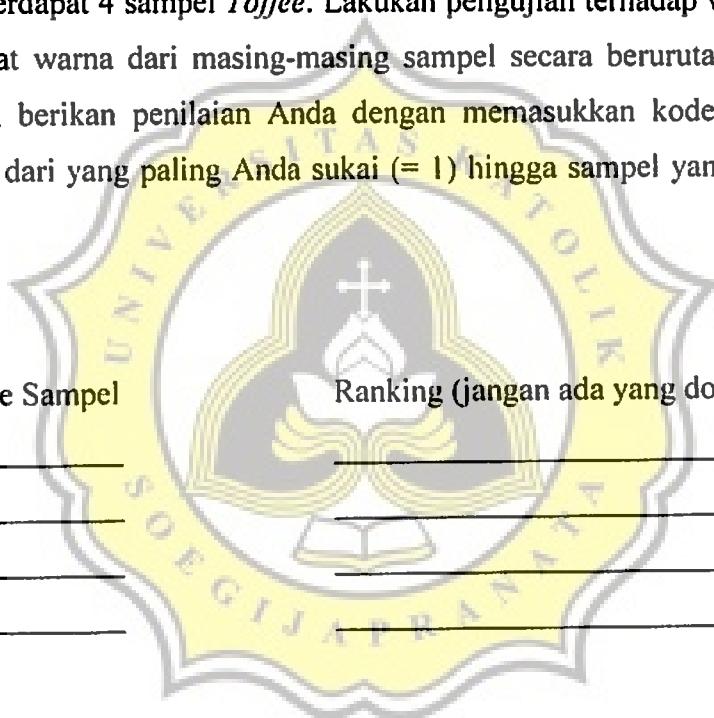
Sampel A	Sampel B	Sampel C	Sampel D
862	223	756	544
245	954	398	537
458	183	522	266
396	174	459	765
522	984	138	496
369	498	133	585
163	298	946	759
488	665	743	127
711	635	493	854
475	653	522	749
824	611	489	172
721	986	538	259
532	967	216	859
925	287	446	618
624	932	849	556
628	396	282	914
843	924	562	337
134	725	842	993
642	731	563	459
932	797	553	325

UJI RANKING

Tanggal   :

Nama   :

Produk   : *Toffee*

Variabel   : Warna

Instruksi :

Di hadapan Anda terdapat 4 sampel *Toffee*. Lakukan pengujian terhadap variabel warna dengan cara melihat warna dari masing-masing sampel secara berurutan dari kiri ke kanan. Setelah itu, berikan penilaian Anda dengan memasukkan kode sampel pada kotak kode sampel dari yang paling Anda sukai (= 1) hingga sampel yang paling tidak Anda sukai (= 4).

Kode Sampel   Ranking (jangan ada yang dobel)

Terima kasih

UJI RANKING

Tanggal   :

Nama   :

Produk   : *Toffee*

Variabel   : Rasa

Instruksi :

Berkumur-kumurlah terlebih dahulu sebelum menguji tiap sampel.

Di hadapan Anda terdapat 4 sampel *Toffee*. Lakukan pengujian terhadap variabel rasa dengan cara mencicipi rasa dari masing-masing sampel secara berurutan dari kiri ke kanan. Setelah itu, berikan penilaian Anda dengan memasukkan kode sampel pada kotak kode sampel dari yang paling Anda sukai (= 1) hingga sampel yang paling tidak Anda sukai (= 4).

Kode Sampel   Ranking (jangan ada yang dobel)

_____   _____

_____   _____

_____   _____

_____   _____

Terima kasih

UJI RANKING

Tanggal   :

Nama   :

Produk   : *Toffee*

Variabel   : Tekstur (*Hardness*)

Instruksi :

Berkumur-kumurlah terlebih dahulu sebelum menguji tiap sample.

Di hadapan Anda terdapat 4 sampel *Toffee*. Lakukan pengujian terhadap variable tekstur (*Hardness*) dengan cara menggigit dari masing-masing sampel secara berurutan dari kiri ke kanan. Setelah itu, berikan penilaian Anda dengan memasukkan kode sampel pada kotak kode sampel dari yang paling Anda sukai (= 1) hingga sample yang paling tidak Anda sukai (= 4).

Kode Sampel   Ranking (jangan ada yang dobel)

_____   _____

_____   _____

_____   _____

_____   _____

Terima kasih

Hardness → tingkat kekerasan bahan pangan yang ditentukan dengan kemudahan atau tidaknya untuk digigit dengan menggunakan gigi geraham.

UJI RANKING

Tanggal   :

Nama   :

Produk   : *Toffee*

Variabel   : Tekstur (*Adhesiveness*)

Instruksi :

Berkumur-kumurlah terlebih dahulu sebelum menguji tiap sample.

Di hadapan Anda terdapat 4 sampel *Toffee*. Lakukan pengujian terhadap variable tekstur (*Ahdesiveness*) dengan cara mengunyah dari masing-masing sampel secara berurutan dari kiri ke kanan. Setelah itu, berikan penilaian Anda dengan memasukkan kode sampel pada kotak kode sampel dari yang paling Anda sukai (= 1) hingga sample yang paling tidak Anda sukai (= 4).

Kode Sampel	Ranking (jangan ada yang dobel)
_____	_____
_____	_____
_____	_____
_____	_____

Terima kasih

Adhesiveness → tingkat kelengketan bahan pangan setelah dikunyah di dalam mulut.
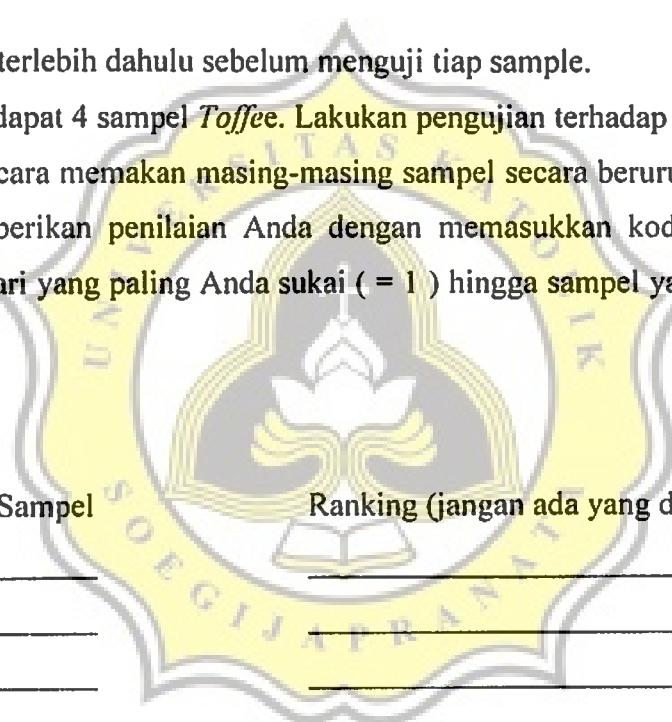
UJI RANKING

Tanggal   :

Nama   :

Produk   : *Toffee*

Variabel   : Tekstur (*Chewiness*)

Instruksi :

Berkumur-kumurlah terlebih dahulu sebelum menguji tiap sample.

Di hadapan Anda terdapat 4 sampel *Toffee*. Lakukan pengujian terhadap variable tekstur (*Chewiness*) dengan cara memakan masing-masing sampel secara berurutan dari kiri ke kanan. Setelah itu, berikan penilaian Anda dengan memasukkan kode sample pada kotak kode sample dari yang paling Anda sukai (= 1) hingga sampel yang paling tidak Anda sukai (= 4).

Kode Sampel   Ranking (jangan ada yang dobel)

_____   _____

_____   _____

_____   _____

_____   _____

Terima kasih

Chewiness → lembut dan lunaknya bahan pangan saat berada di mulut, digigit sampai bahan pangan ditelan.

UJI RANKING

Tanggal   :

Nama   :

Produk   : *Toffee*

Variabel   : Overall

Instruksi :

Berkumur-kumurlah terlebih dahulu sebelum menguji sample.

Di hadapan Anda terdapat 4 sampel *Toffee*. Lakukan pengujian terhadap atribut *overall* dari masing-masing sample secara berurutan dari kiri ke kanan. Setelah itu, berikan penilaian Anda dengan memasukkan kode sample pada kotak kode sample dari yang paling Anda sukai (= 1) hingga sample yang paling tidak Anda sukai (= 4).

Kode Sampel   Ranking (jangan ada yang dobel)

_____   _____

_____   _____

_____   _____

_____   _____

Terima kasih

Lampiran 3. Data SPSS

Variabel Warna pada Pengujian secara Subjektif (Non-parametrik – Friedman Test – Wilcoxon Signed Ranks Test)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
sampel_1	50	1.00	4.00	1.8400	.97646
sampel_2	50	1.00	4.00	2.5600	1.03332
sampel_3	50	1.00	4.00	2.7400	1.17473
sampel_4	50	1.00	4.00	2.8600	1.03036
Valid N (listwise)	50				
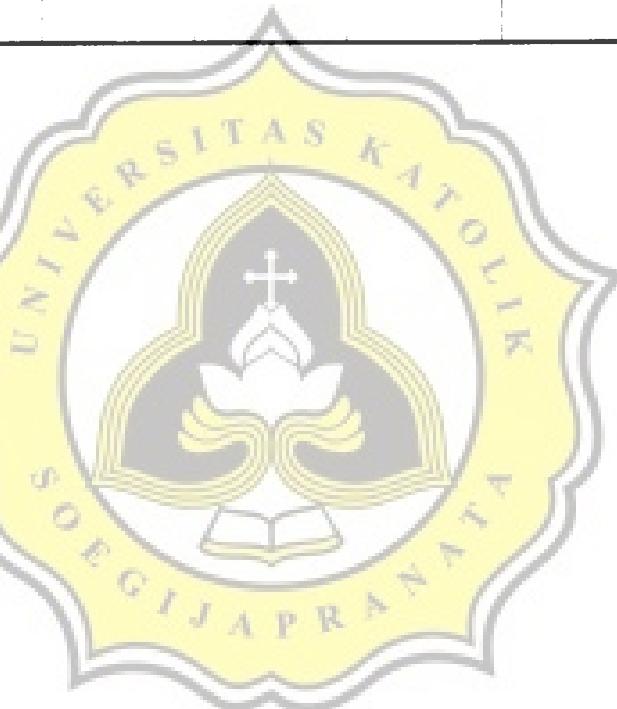
Friedman Test

Ranks

	Mean Rank
sampel_1	1,84
sampel_2	2,56
sampel_3	2,74
sampel_4	2,86

Test Statistics[a]

N	50
Chi-Square	18,792
df	3
Asymp. Sig.	,000

a. Friedman Test

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
sampel_2 - sampel_1	Negative Ranks	15[a]	23.63	354.50
	Positive Ranks	35[b]	26.30	920.50
	Ties	0[c]		
	Total	50		
sampel_3 - sampel_1	Negative Ranks	15[d]	19.23	288.50
	Positive Ranks	35[e]	28.19	986.50
	Ties	0[f]		
	Total	50		
sampel_4 - sampel_1	Negative Ranks	12[g]	21.29	255.50
	Positive Ranks	38[h]	26.83	1019.50
	Ties	0[i]		
	Total	50		
sampel_3 - sampel_2	Negative Ranks	22[j]	26.25	577.50
	Positive Ranks	28[k]	24.91	697.50
	Ties	0[l]		
	Total	50		
sampel_4 - sampel_2	Negative Ranks	21[m]	23.98	503.50
	Positive Ranks	29[n]	26.60	771.50
	Ties	0[o]		
	Total	50		
sampel_4 - sampel_3	Negative Ranks	24[p]	24.33	584.00
	Positive Ranks	26[q]	26.58	691.00
	Ties	0[r]		
	Total	50		

a. sampel_2 < sampel_1

b. sampel_2 > sampel_1

c. sampel_2 = sampel_1

d. sampel_3 < sampel_1

e. sampel_3 > sampel_1

f. sampel_3 = sampel_1

g. sampel_4 < sampel_1

h. sampel_4 > sampel_1

i. sampel_4 = sampel_1

j. sampel_3 < sampel_2

k. sampel_3 > sampel_2

l. sampel_3 = sampel_2

m. sampel_4 < sampel_2

n. sampel_4 > sampel_2

o. sampel_4 = sampel_2

p. sampel_4 < sampel_3

q. sampel_4 > sampel_3

r. sampel_4 = sampel_3

Test Statistics[b]

	sampel_2 - sampel_1	sampel_3 - sampel_1	sampel_4 - sampel_1	sampel_3 - sampel_2	sampel_4 - sampel_2	sampel_4 - sampel_3
Z	-2,792[a]	-3,426[a]	-3,772[a]	-,594[a]	-1,331[a]	-,526[a]
Asymp. Sig. (2-tailed)	,005	,001	,000	,553	,183	,599

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Variabel Rasa pada Pengujian secara Subjektif (Non-Parametrik – Friedman Test – Wilcoxon Signed Ranks Test)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
sampel_1	50	1,00	4,00	1,6200	,92339
sampel_2	50	1,00	4,00	2,6800	,99877
sampel_3	50	1,00	4,00	2,6600	1,06157
sampel_4	50	1,00	4,00	3,0400	,98892
Valid N (listwise)	50				

Friedman Test

Ranks

	Mean Rank
sampel_1	1,62
sampel_2	2,68
sampel_3	2,66
sampel_4	3,04

Test Statistics[a]

N	50
Chi-Square	33,720
df	3
Asymp. Sig.	,000

a. Friedman Test

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
sampel_2 - sampel_1	Negative Ranks	11[a]	19,73	217,00
	Positive Ranks	39[b]	27,13	1058,00
	Ties	0[c]		
	Total	50		
sampel_3 - sampel_1	Negative Ranks	13[d]	18,12	235,50
	Positive Ranks	37[e]	28,09	1039,50
	Ties	0[f]		
	Total	50		
sampel_4 - sampel_1	Negative Ranks	7[g]	29,71	208,00
	Positive Ranks	43[h]	24,81	1067,00
	Ties	0[i]		
	Total	50		
sampel_3 - sampel_2	Negative Ranks	25[j]	25,48	637,00
	Positive Ranks	25[k]	25,52	638,00
	Ties	0[l]		
	Total	50		
sampel_4 - sampel_2	Negative Ranks	20[m]	24,55	491,00
	Positive Ranks	30[n]	26,13	784,00
	Ties	0[o]		
	Total	50		
sampel_4 - sampel_3	Negative Ranks	21[p]	21,81	458,00
	Positive Ranks	29[q]	28,17	817,00
	Ties	0[r]		
	Total	50		

a. sampel_2 < sampel_1

b. sampel_2 > sampel_1

c. sampel_2 = sampel_1

d. sampel_3 < sampel_1

e. sampel_3 > sampel_1

f. sampel_3 = sampel_1

g. sampel_4 < sampel_1

h. sampel_4 > sampel_1

i. sampel_4 = sampel_1

j. sampel_3 < sampel_2

k. sampel_3 > sampel_2

l. sampel_3 = sampel_2

m. sampel_4 < sampel_2

n. sampel_4 > sampel_2

o. sampel_4 = sampel_2

p. sampel_4 < sampel_3

q. sampel_4 > sampel_3

r. sampel_4 = sampel_3

Test Statistics[b]

	sampel_2 - sampel_1	sampel_3 - sampel_1	sampel_4 - sampel_1	sampel_3 - sampel_2	sampel_4 - sampel_2	sampel_4 - sampel_3
Z	-4,155[a]	-3,963[a]	-4,210[a]	-,005[a]	-1,466[a]	-1,786[a]
Asymp. Sig. (2-tailed)	,000	,000	,000	,996	,143	,074

[a]. Based on negative ranks.

[b]. Wilcoxon Signed Ranks Test

Variabel Hardness pada Pengujian secara Subjektif (Non-Parametrik – Friedman Test – Wilcoxon Signed Ranks Test)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
sampel_1	50	1,00	4,00	1,6600	,74533
sampel_2	50	1,00	4,00	2,4800	1,07362
sampel_3	50	1,00	4,00	2,8600	1,01035
sampel_4	50	1,00	4,00	3,0200	1,13371
Valid N (listwise)	50				

Friedman Test

Ranks

	Mean Rank
sampel_1	1,66
sampel_2	2,47
sampel_3	2,86
sampel_4	3,01

Test Statistics[a]

N	50
Chi-Square	32,952
df	3
Asymp. Sig.	,000

a. Friedman Test

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
sampel_2 - sampel_1	Negative Ranks	13[a]	20,54	267,00
	Positive Ranks	37[b]	27,24	1008,00
	Ties	0[c]		
	Total	50		
sampel_3 - sampel_1	Negative Ranks	9[d]	17,78	160,00
	Positive Ranks	41[e]	27,20	1115,00
	Ties	0[f]		
	Total	50		
sampel_4 - sampel_1	Negative Ranks	11[g]	14,95	164,50
	Positive Ranks	39[h]	28,47	1110,50
	Ties	0[i]		
	Total	50		
sampel_3 - sampel_2	Negative Ranks	19[j]	26,29	499,50
	Positive Ranks	31[k]	25,02	775,50
	Ties	0[l]		
	Total	50		
sampel_4 - sampel_2	Negative Ranks	17[m]	24,62	418,50
	Positive Ranks	32[n]	25,20	806,50
	Ties	1[o]		
	Total	50		
sampel_4 - sampel_3	Negative Ranks	21[p]	27,93	586,50
	Positive Ranks	29[q]	23,74	688,50
	Ties	0[r]		
	Total	50		

a. sampel_2 < sampel_1

b. sampel_2 > sampel_1

c. sampel_2 = sampel_1

d. sampel_3 < sampel_1

e. sampel_3 > sampel_1

f. sampel_3 = sampel_1

g. sampel_4 < sampel_1

h. sampel_4 > sampel_1

i. sampel_4 = sampel_1

j. sampel_3 < sampel_2

k. sampel_3 > sampel_2

l. sampel_3 = sampel_2

m. sampel_4 < sampel_2

n. sampel_4 > sampel_2

o. sampel_4 = sampel_2

p. sampel_4 < sampel_3

q. sampel_4 > sampel_3

r. sampel_4 = sampel_3

Test Statistics[b]

	sampel_2 - sampel_1	sampel_3 - sampel_1	sampel_4 - sampel_1	sampel_3 - sampel_2	sampel_4 - sampel_2	sampel_4 - sampel_3
Z	-3,717[a]	-4,710[a]	-4,633[a]	-1,358[a]	-1,963[a]	-,507[a]
Asymp. Sig. (2-tailed)	,000	,000	,000	,174	,050	,612

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Variabel Adhesiveness pada Pengujian secara Subjektif (Non-Parametrik – Friedman Test – Wilcoxon Signed Ranks Test)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
sampel_1	50	1,00	4,00	1,9000	1,05463
sampel_2	50	1,00	4,00	2,6800	,99877
sampel_3	50	1,00	4,00	2,4600	1,09190
sampel_4	50	1,00	4,00	2,9600	1,08722
Valid N (listwise)	50				

Friedman Test

Ranks

	Mean Rank
sampel_1	1,90
sampel_2	2,68
sampel_3	2,46
sampel_4	2,96

Test Statistics[a]

N	50
Chi-Square	18,168
df	3
Asymp. Sig.	,000

a. Friedman Test

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
sampel_2 - sampel_1	Negative Ranks	15[a]	21,80	327,00
	Positive Ranks	35[b]	27,09	948,00
	Ties	0[c]		
	Total	50		
sampel_3 - sampel_1	Negative Ranks	16[d]	26,75	428,00
	Positive Ranks	34[e]	24,91	847,00
	Ties	0[f]		
	Total	50		
sampel_4 - sampel_1	Negative Ranks	14[g]	19,32	270,50
	Positive Ranks	36[h]	27,90	1004,50
	Ties	0[i]		
	Total	50		
sampel_3 - sampel_2	Negative Ranks	29[j]	25,50	739,50
	Positive Ranks	21[k]	25,50	535,50
	Ties	0[l]		
	Total	50		
sampel_4 - sampel_2	Negative Ranks	20[m]	25,30	506,00
	Positive Ranks	30[n]	25,63	769,00
	Ties	0[o]		
	Total	50		
sampel_4 - sampel_3	Negative Ranks	18[p]	25,17	453,00
	Positive Ranks	32[q]	25,69	822,00
	Ties	0[r]		
	Total	50		

a. sampel_2 < sampel_1

b. sampel_2 > sampel_1

c. sampel_2 = sampel_1

d. sampel_3 < sampel_1

e. sampel_3 > sampel_1

f. sampel_3 = sampel_1

g. sampel_4 < sampel_1

h. sampel_4 > sampel_1

i. sampel_4 = sampel_1

j. sampel_3 < sampel_2

k. sampel_3 > sampel_2

l. sampel_3 = sampel_2

m. sampel_4 < sampel_2

n. sampel_4 > sampel_2

o. sampel_4 = sampel_2

p. sampel_4 < sampel_3

q. sampel_4 > sampel_3

r. sampel_4 = sampel_3

Test Statistics

	sampel_2 - sampel_1	sampel_3 - sampel_1	sampel_4 - sampel_1	sampel_3 - sampel_2	sampel_4 - sampel_2	sampel_4 - sampel_3
Z	-3,065[a]	-2,063[a]	-3,597[a]	-1,012[b]	-1,302[a]	-1,818[a]
Asymp. Sig. (2-tailed)	,002	,039	,000	,312	,193	,069

a. Based on negative ranks.

b. Based on positive ranks.

c. Wilcoxon Signed Ranks Test

Variabel Chewiness pada Pengujian secara Subjektif (Non-Parametrik – Friedman Test – Wilcoxon Signed Ranks Test)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
sampel_1	50	1,00	4,00	1,8400	,91160
sampel_2	50	1,00	4,00	2,4800	1,09246
sampel_3	50	1,00	4,00	2,7000	1,09265
sampel_4	50	1,00	4,00	2,9800	1,07836
Valid N (listwise)	50				

Friedman Test

Ranks

	Mean Rank
sampel_1	1,84
sampel_2	2,48
sampel_3	2,70
sampel_4	2,98

Test Statistics[a]

N	50
Chi-Square	21,192
df	3
Asymp. Sig.	,000

a. Friedman Test

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
sampel_2 - sampel_1	Negative Ranks	19[a]	18,55	352,50
	Positive Ranks	31[b]	29,76	922,50
	Ties	0[c]		
	Total	50		
sampel_3 - sampel_1	Negative Ranks	15[d]	19,97	299,50
	Positive Ranks	35[e]	27,87	975,50
	Ties	0[f]		
	Total	50		
sampel_4 - sampel_1	Negative Ranks	8[g]	32,56	260,50
	Positive Ranks	42[h]	24,15	1014,50
	Ties	0[i]		
	Total	50		
sampel_3 - sampel_2	Negative Ranks	23[j]	23,57	542,00
	Positive Ranks	27[k]	27,15	733,00
	Ties	0[l]		
	Total	50		
sampel_4 - sampel_2	Negative Ranks	20[m]	22,15	443,00
	Positive Ranks	30[n]	27,73	832,00
	Ties	0[o]		
	Total	50		
sampel_4 - sampel_3	Negative Ranks	23[p]	22,04	507,00
	Positive Ranks	27[q]	28,44	768,00
	Ties	0[r]		
	Total	50		

a. sampel_2 < sampel_1

b. sampel_2 > sampel_1

c. sampel_2 = sampel_1

d. sampel_3 < sampel_1

e. sampel_3 > sampel_1

f. sampel_3 = sampel_1

g. sampel_4 < sampel_1

h. sampel_4 > sampel_1

i. sampel_4 = sampel_1

j. sampel_3 < sampel_2

k. sampel_3 > sampel_2

l. sampel_3 = sampel_2

m. sampel_4 < sampel_2

n. sampel_4 > sampel_2

o. sampel_4 = sampel_2

p. sampel_4 < sampel_3

q. sampel_4 > sampel_3

r. sampel_4 = sampel_3

Test Statistics[b]

	sampel_2 - sampel_1	sampel_3 - sampel_1	sampel_4 - sampel_1	sampel_3 - sampel_2	sampel_4 - sampel_2	sampel_4 - sampel_3
Z	-2,831[a]	-3,344[a]	-3,699[a]	-,939[a]	-1,921[a]	-1,290[a]
Asymp. Sig. (2-tailed	,005	,001	,000	,348	,055	,197

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Variabel Overall pada Pengujian secara Subjektif (Non-Parametrik – Friedman Test – Wilcoxon Signed Ranks Test)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
sampel_1	50	1,00	4,00	1,5800	,83520
sampel_2	50	1,00	4,00	2,5800	1,05153
sampel_3	50	1,00	4,00	2,8200	,89648
sampel_4	50	1,00	4,00	3,0200	1,11557
Valid N (listwise)	50				

Friedman Test

Ranks

	Mean Rank
sampel_1	1,58
sampel_2	2,58
sampel_3	2,82
sampel_4	3,02

Test Statistics[a]

N	50
Chi-Square	36,768
df	3
Asymp. Sig.	,000

a. Friedman Test

Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
sampel_2 - sampel_1	Negative Ranks	12[a]	19,75	237,00
	Positive Ranks	38[b]	27,32	1038,00
	Ties	0[c]		
	Total	50		
sampel_3 - sampel_1	Negative Ranks	8[d]	16,69	133,50
	Positive Ranks	42[e]	27,18	1141,50
	Ties	0[f]		
	Total	50		
sampel_4 - sampel_1	Negative Ranks	9[g]	20,28	182,50
	Positive Ranks	41[h]	26,65	1092,50
	Ties	0[i]		
	Total	50		
sampel_3 - sampel_2	Negative Ranks	20[j]	27,35	547,00
	Positive Ranks	30[k]	24,27	728,00
	Ties	0[l]		
	Total	50		
sampel_4 - sampel_2	Negative Ranks	21[m]	21,62	454,00
	Positive Ranks	29[n]	28,31	821,00
	Ties	0[o]		
	Total	50		
sampel_4 - sampel_3	Negative Ranks	19[p]	29,34	557,50
	Positive Ranks	31[q]	23,15	717,50
	Ties	0[r]		
	Total	50		

a. sampel_2 < sampel_1

b. sampel_2 > sampel_1

c. sampel_2 = sampel_1

d. sampel_3 < sampel_1

e. sampel_3 > sampel_1

f. sampel_3 = sampel_1

g. sampel_4 < sampel_1

h. sampel_4 > sampel_1

i. sampel_4 = sampel_1

j. sampel_3 < sampel_2

k. sampel_3 > sampel_2

l. sampel_3 = sampel_2

m. sampel_4 < sampel_2

n. sampel_4 > sampel_2

o. sampel_4 = sampel_2

p. sampel_4 < sampel_3

q. sampel_4 > sampel_3

r. sampel_4 = sampel_3

Test Statistics

	sampel_2 - sampel_1	sampel_3 - sampel_1	sampel_4 - sampel_1	sampel_3 - sampel_2	sampel_4 - sampel_2	sampel_4 - sampel_3
Z	-3,964[a]	-4,983[a]	-4,458[a]	-,896[a]	-1,808[a]	-,798[a]
Asymp. Sig. (2-tailed)	,000	,000	,000	,370	,071	,425

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Pengujian secara Objektif

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
hardness_1	11	91,7%	1	8,3%	12	100,0%
loghardness_2	11	91,7%	1	8,3%	12	100,0%
logchewiness	11	91,7%	1	8,3%	12	100,0%
logadhesiveness	11	91,7%	1	8,3%	12	100,0%

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
hardness_1	,136	11	,200*	,938	11	,495
loghardness_2	,213	11	,176	,907	11	,224
logchewiness	,270	11	,024	,856	11	,050
logadhesiveness	,175	11	,200*	,909	11	,236

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

ONEWAY

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
hardness_1	3,110	3	8	,089
loghardness_2	3,866	3	8	,056
logchewiness	3,379	3	8	,075
logadhesiveness	5,993	3	8	,019

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
hardness_1	Between Groups	1215,586	3	405,195	48,707	,000
	Within Groups	66,552	8	8,319		
	Total	1282,138	11			
loghardness_2	Between Groups	1,436	3	,479	24,249	,000
	Within Groups	,158	8	,020		
	Total	1,594	11			
logchewiness	Between Groups	,000	3	,000	13,169	,002
	Within Groups	,000	8	,000		
	Total	,000	11			
logadhesiveness	Between Groups	,039	3	,013	2,685	,117
	Within Groups	,039	8	,005		
	Total	,077	11			

Post Hoc Tests
Homogeneous Subsets

hardness_1

Duncan[a]

		Subset for alpha = .05			
sampel	N	1	2	3	4
Sugus	3	10,49255			
Station Rasa	3		19,53868		
Kino	3			26,51877	
Fruit Tella	3				38,03555
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3,000.

loghardness_2

Duncan[a]

		Subset for alpha = .05		
sampel	N	1	2	3
Fruit Tella	3	,50385264		
Sugus	3	,60679454		
Station Rasa	3		1,029046	
Kino	3			1,370420
Sig.		,396	1,000	1,000

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3,000.

logchewiness

Duncan[a]

sampel	N	Subset for alpha = .05	
		1	2
Fruit Tella	3	,00000145	
Sugus	3	,00019105	
Kino	3		,00090084
Station Rasa	3		,00116224
Sig.		,407	,262

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

logadhesiveness

Duncan[a]

sampel	N	Subset for alpha = .05	
		1	2
Station Rasa	3	,00061552	
Fruit Tella	3	,02662068	,02662068
Sugus	3	,03541352	,03541352
Kino	3		,14889069
Sig.		,572	,072

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Korelasi antara Pengujian secara Objektif dan Subjektif

Correlations

			Hardness_1_Objektif	Hardness_2_Objektif	Chewnness_Objektif	Adhesiveness_Objektif	Hardness_Subjektif	Chewnness_Subjektif	Adhesiveness_Subjektif
Kendall's tau_b	Hardness_1_Objektif	Correlation Coefficient	1,000	,000	-,333	,000	,333	,333	,333
		Sig. (2-tailed)		1,000	,497	1,000	,497	,497	,497
		N	4	4	4	4	4	4	4
	Hardness_2_Objektif	Correlation Coefficient	,000	1,000	,667	,333	,667	,667	,667
		Sig. (2-tailed)	1,000		,174	,497	,174	,174	,174
		N	4	4	4	4	4	4	4
	Chewnness_Objektif	Correlation Coefficient	-,333	,667	1,000	,000	,333	,333	,333
		Sig. (2-tailed)	,497	,174		1,000	,497	,497	,497
		N	4	4	4	4	4	4	4
	Adhesiveness_Objektif	Correlation Coefficient	,000	,333	,000	1,000	,000	,000	,000
		Sig. (2-tailed)	1,000	,497	1,000		1,000	1,000	1,000
		N	4	4	4	4	4	4	4
	Hardness_Subjektif	Correlation Coefficient	,333	,667	,333	,000	1,000	1,000*	1,000*
		Sig. (2-tailed)	,497	,174	,497	1,000		,042	,042
		N	4	4	4	4	4	4	4
	Chewnness_Subjektif	Correlation Coefficient	,333	,667	,333	,000	1,000*	1,000	1,000*
		Sig. (2-tailed)	,497	,174	,497	1,000	,042		,042
		N	4	4	4	4	4	4	4
	Adhesiveness_Subjektif	Correlation Coefficient	,333	,667	,333	,000	1,000*	1,000*	1,000
		Sig. (2-tailed)	,497	,174	,497	1,000	,042	,042	
		N	4	4	4	4	4	4	4

* Correlation is significant at the 0.05 level (2-tailed).