

CHAPTER 6

CONCLUSION and SUGGESTION

6.1. Conclusion

- a. There are 13 attributes of "Juz AFI Orange Juice" package requiring to be improved. They are:
1. Ease of grasping / bringing the bottle
 2. Ease of opening the bottle cover.
 3. Ease of closing the bottle cover.
 4. The color variation.
 5. The character variation.
 6. Ease to read the information.
 7. Availability of weight product information.
 8. Availability of company name and company address.
 9. Availability of purchasing suggestion.
 10. Availability of nutrition facts.
 11. Availability of ingredients.
 12. Availability of saving suggestion.
 13. Availability of expired date.
- b. The results of the questionnaires indicate that 63 responders (57.27%) less like the package of "Juz AFI Orange Juice" toward "Frutang Orange Juice" package and "Modern Orange Juice" package.
- c. The design suggestion of "Juz AFI Orange Juice" packer label considers ergonomic display principle and the *Badan POM* regulation about the writing of packer label. The new packer label is good looking, having complete and easy to read information without

removing the trademark of "Juz AFI Orange Juice" package.

6.2: Suggestion

The purpose of this research is giving the design suggestion of "Juz AFI Orange Juice" package. For further research, the writer suggests discussing about material selection and production cost estimation.



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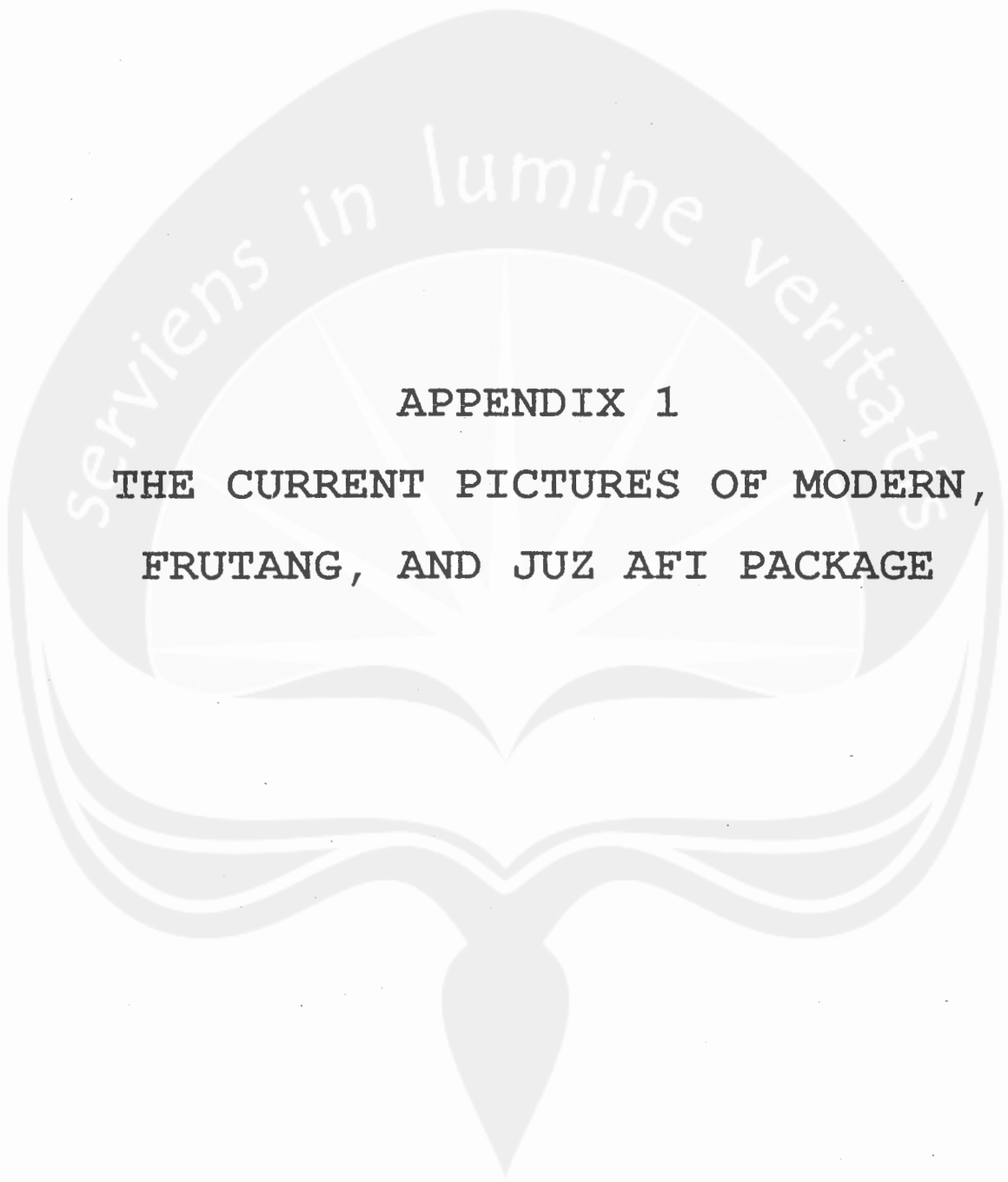
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APPENDIX 1
THE CURRENT PICTURES OF MODERN,
FRUTANG, AND JUZ AFI PACKAGE



Appendix 1A. The Picture of Modern, Frutang, and Juz AFI Package



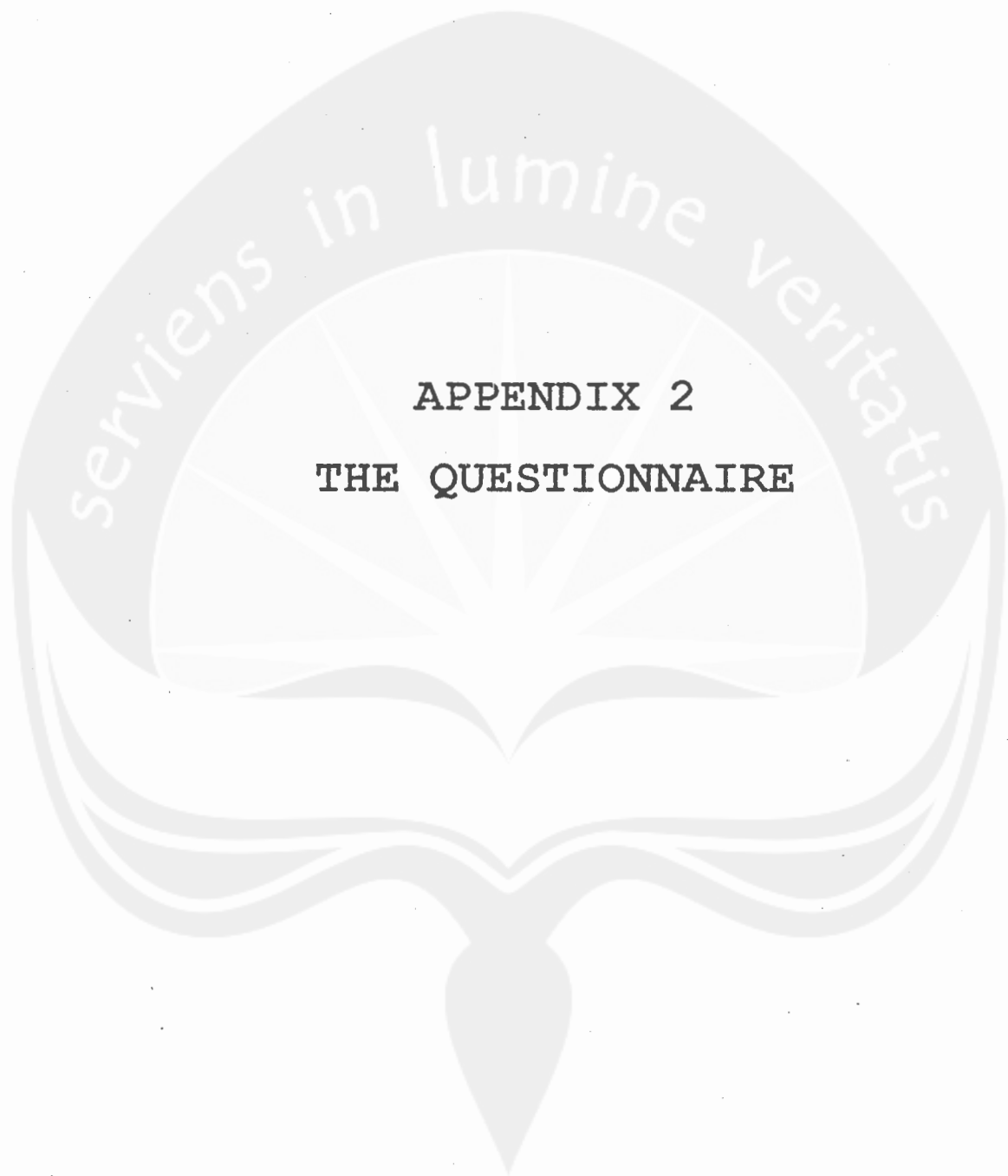
Appendix 1B. The Picture of Modern Package



Appendix 1C. The Picture of Frutang Package



Appendix 1D. The Picture of Juz AFI Package



APPENDIX 2
THE QUESTIONNAIRE

QUESTIONNAIRE
SUGGESTION FOR REDESIGNING "JUZ AFI ORANGE JUICE" PACKAGE
USING QUALITY FUNCTION DEPLOYMENT METHOD

In effort to finish my study in International Class of Industrial Engineering Program, Industrial Engineering Department, Faculty of Industrial Technology, Atma Jaya Yogyakarta University, I will do a research for the final report entitled " Suggestion For Redesigning " Juz Afi Orange Juice" Package Using Quality Function Deployment Method". I am:

Name : Christian Susanto

NIM : 3311

I hope you ready to answer some question which I observe. This questionnaire has been made so easy to make easier in filling it. All answer which you give will only be used in this research and the confidentiality is well guaranteed. Thank you for your kind attention.

Male

Female

I. In this part, the questions is focused on the package attributes of Frutang, Modern, dan Juz Afi.

Instruction: 1. Give cross (x) for the most appropriate answer according your importance level

SP = Very important

N = Normal

STP = Very unimportant

P = Important

TP = Unimportant

2. Give cross (x) on perception scale (1-5) for the most appropriate answer according your satisfaction level.

1 = Very dissatisfying

3 = Normal

5 = Very satisfying

2 = Dissatisfying

4 = Satisfying

Example:

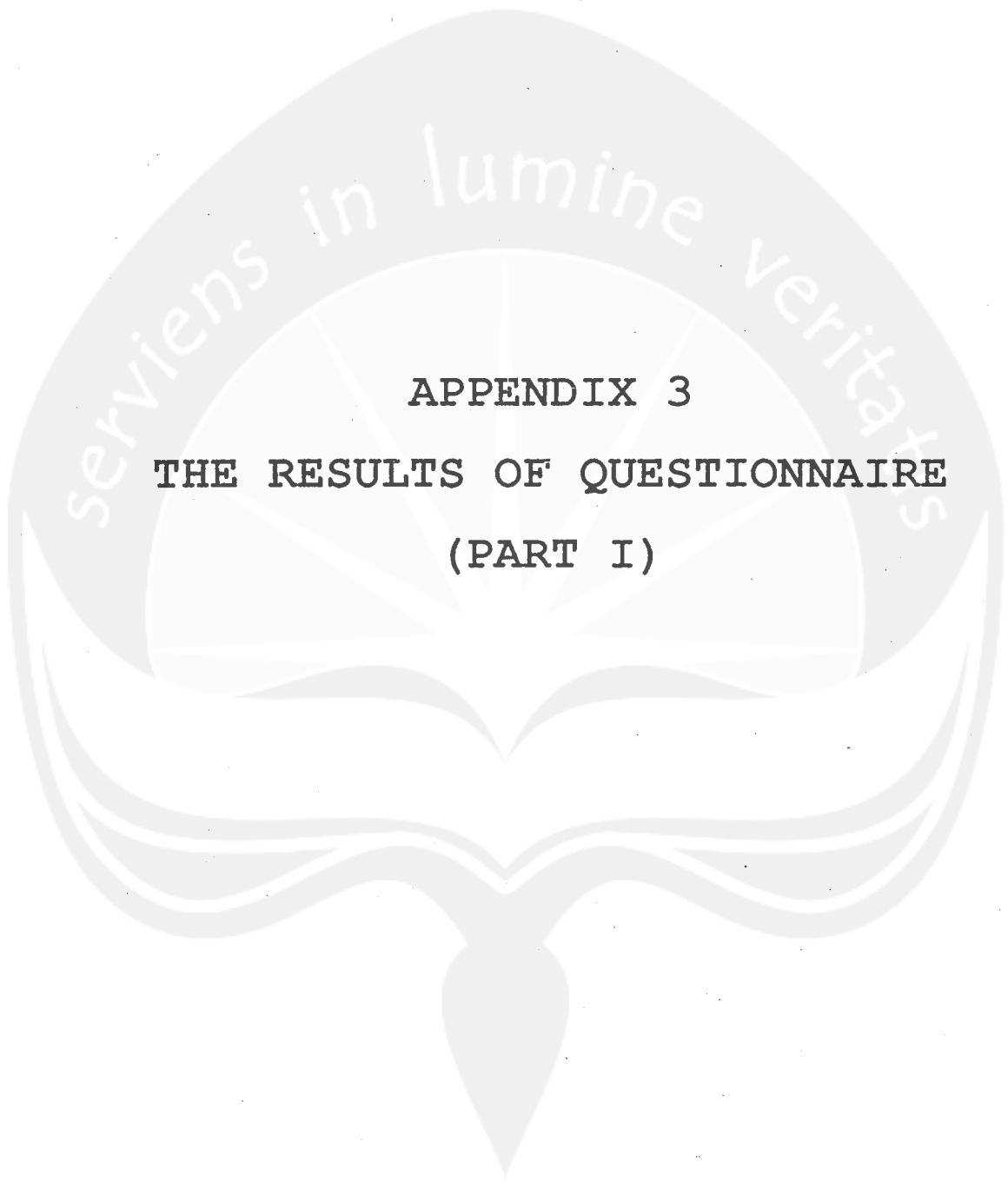
S P	P	N	T P	S T P	Question	Frutang					Modern					Juz Afi							
						1	2	3	4	5	1	2	3	4	5	1	2	3	4	5			
X					Variation of the bottle shape					X			X					X					

S P	P	N	T P	S T P	Questions	Frutang					Modern					Juz AFI				
						1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
					Availability of company name and company address															
					Availability of registration number															
					Availability of production code															
					Availability of nutrition facts															
					Availability of ingredients															
					Availability of expired date															
					Availability of saving suggestion															
					Availability of purchasing suggestion															
					Availability of serving suggestion															
					Availability of "halal" label															
					Availability of garbage disposal label															
					Availability of bar code															

II. In this part, the question is focused on the suggestion for the packages require to be redesigned.

Instruction: Give cross (x) for your most preferable answer.

1. According to you, which orange juice package that need the redesigning the most?
- a. Frutang b. Modern c. Juz Afi
- The reasons



APPENDIX 3
THE RESULTS OF QUESTIONNAIRE
(PART I)

IMPORTANCE

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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in lumine

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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in lumine

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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in lumine

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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Average	4.02	4.52	4.65	3.59	4	3.95	4.04	4.08	3.84	3.66	3.31	3.45	3.41	4.09	4.11	4.83	3.55	3.68	3.79	3.51	3.11	3.86

FRUTANG

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
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11	3	3	3	3	4	4	5	5	4	4	4	4	4	3	4	4	2	4	3	2	2	4	
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13	3	3	1	4	4	4	3	3	3	3	4	4	4	3	2	4	1	4	4	2	5	3	
14	2	2	4	5	4	4	3	4	2	3	5	4	3	3	4	5	2	4	3	2	4	3	
15	3	1	4	3	4	4	4	4	4	4	4	4	3	4	4	3	1	4	3	1	5	3	
16	4	2	3	4	4	3	4	3	3	4	5	4	4	4	3	3	1	4	4	1	5	3	
17	3	2	3	3	4	4	5	4	3	4	4	4	4	4	4	4	2	3	4	2	5	3	
18	4	2	3	4	4	4	5	4	3	3	4	4	4	4	4	5	2	4	4	2	4	4	
19	3	3	3	3	4	4	4	3	4	3	4	3	3	4	4	4	2	4	4	2	5	3	
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21	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	4	2	3	3	3	
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25	2	1	3	3	3	3	4	3	4	3	4	3	3	4	4	4	3	5	4	1	4	4	
26	4	3	5	5	4	4	4	4	4	4	5	3	4	4	3	4	1	5	3	1	4	4	
27	3	4	5	4	5	2	2	3	3	3	4	4	4	2	4	4	3	5	4	3	4	3	
28	3	2	3	3	4	4	4	4	4	4	5	5	3	3	4	4	3	5	4	3	5	4	

in lumine

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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31	3	3	3	3	4	4	4	4	4	3	3	4	4	4	4	4	2	5	4	2	5	5
32	4	3	4	3	4	3	3	3	3	4	4	3	4	3	3	4	3	5	3	3	4	4
33	3	3	2	3	4	4	3	5	4	3	4	4	4	3	4	4	2	4	3	2	5	3
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57	3	3	2	4	4	3	3	3	3	3	5	4	3	3	4	4	2	3	3	1	4	3
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in lumine

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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61	4	3	3	3	4	4	5	4	4	4	4	4	4	4	4	4	1	3	2	2	3	4
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63	3	3	4	4	5	4	4	3	3	3	3	3	4	4	4	4	2	4	4	2	3	3
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65	2	2	3	3	3	3	3	3	3	3	4	4	3	4	3	3	2	4	4	1	4	3
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68	4	3	3	5	4	3	3	3	3	4	4	3	3	4	3	3	1	3	3	2	4	3
69	2	2	3	3	3	2	3	4	4	3	4	2	4	2	4	4	1	5	4	1	3	3
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72	2	3	3	4	4	4	3	4	3	5	5	3	4	4	4	4	1	5	5	2	5	4
73	3	2	3	3	4	4	4	3	4	4	4	4	3	3	3	4	2	5	4	3	4	4
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76	4	3	5	3	5	3	4	3	4	4	4	3	4	3	4	4	2	4	4	2	4	5
77	3	3	3	4	5	4	5	4	4	3	3	4	4	3	4	4	2	4	3	2	3	3
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79	3	1	1	3	4	4	4	3	3	3	4	3	4	3	4	2	1	4	4	1	5	3
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88	2	2	3	4	4	4	5	4	3	4	5	4	4	4	4	4	2	3	4	2	5	4

in lumine

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
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93	4	3	5	4	5	4	3	3	3	5	4	4	3	4	4	4	3	5	4	1	4	4	
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96	3	3	3	5	4	3	5	4	4	3	4	4	4	4	4	4	2	4	4	3	4	3	
97	4	2	1	3	4	4	4	5	3	4	3	4	4	2	4	4	2	5	4	2	5	4	
98	3	2	4	4	4	3	4	3	4	4	4	3	3	3	4	4	3	5	4	2	4	5	
99	3	3	3	3	4	4	3	4	4	4	4	4	3	3	3	4	4	3	5	4	2	4	5
100	4	2	4	3	5	2	4	3	3	4	3	5	3	4	3	3	4	2	3	3	1	4	4
101	3	2	3	3	4	4	3	3	3	4	4	4	4	3	3	4	1	3	3	3	4	3	
102	2	3	4	5	4	4	4	4	4	3	5	4	3	4	4	5	3	3	4	1	5	3	
103	3	3	3	3	5	4	4	4	4	4	4	4	3	4	4	3	1	4	4	2	4	3	
104	3	3	3	4	3	3	4	4	3	3	5	4	4	4	4	3	2	4	4	2	5	4	
105	2	3	4	3	4	4	5	4	4	3	4	4	3	4	4	4	2	3	3	2	5	4	
106	3	2	4	4	4	4	3	4	4	4	4	4	4	4	4	5	2	4	3	2	5	3	
107	3	1	3	4	4	3	4	3	4	3	4	3	4	3	3	4	1	4	4	2	4	3	
108	3	2	3	3	5	4	4	3	4	5	4	4	4	4	4	5	1	4	3	2	5	3	
109	3	3	3	3	4	4	5	3	3	3	3	3	3	4	3	3	1	4	2	1	4	3	
110	4	3	2	4	4	4	4	4	4	4	5	4	4	4	4	4	2	5	4	-	5	3	
Average	3.02	2.48	3.27	3.61	3.94	3.64	3.73	3.58	3.57	3.71	4.04	3.61	3.58	3.62	3.65	3.9	1.91	4.15	3.55	1.9	4.19	3.56	

MODERN

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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3	4	5	3	3	3	3	4	3	4	3	4	2	3	5	4	5	1	1	1	1	2	2
4	4	5	5	5	4	3	2	2	4	3	3	3	4	4	4	4	2	2	1	1	4	4
5	4	4	5	5	5	3	3	3	3	5	4	5	4	4	4	4	1	1	1	1	4	4
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7	3	2	3	4	4	3	4	3	3	4	4	3	4	4	3	4	2	3	2	1	3	3
8	4	4	3	4	5	3	4	3	4	4	4	4	3	4	3	4	2	2	3	3	3	4
9	3	4	4	3	2	3	4	4	4	4	3	4	4	4	4	3	2	3	2	2	3	4
10	4	5	4	4	5	4	4	3	4	4	3	3	4	3	4	4	3	2	3	1	4	5
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12	3	4	5	4	5	3	3	4	3	4	4	4	5	4	3	4	2	2	2	2	3	4
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14	3	3	4	4	4	3	3	4	2	3	4	4	3	3	4	4	2	2	2	2	3	3
15	4	2	4	4	5	4	4	4	4	4	4	4	4	4	4	5	1	1	1	1	4	3
16	4	3	5	4	4	3	4	3	3	4	4	4	4	4	4	4	1	2	2	1	4	4
17	4	3	4	3	4	3	5	4	1	4	4	4	4	4	4	4	2	2	2	2	4	3
18	4	2	4	3	5	4	5	3	3	3	3	3	3	4	4	5	2	2	2	3	3	4
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21	3	3	3	3	4	3	3	3	3	3	3	3	3	4	3	3	1	2	2	3	3	3
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27	4	4	3	4	5	3	4	3	3	3	3	4	4	5	4	4	2	1	1	1	4	4
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in lumine

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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37	4	3	3	3	5	4	4	4	4	4	4	4	3	4	4	4	1	3	2	1	4	4
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53	3	4	4	3	2	3	4	3	3	5	3	4	4	3	2	4	2	1	2	3	2	4
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57	3	3	5	4	4	3	4	4	2	4	4	4	3	3	4	4	1	2	3	2	3	3
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in lumine

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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71	4	4	5	3	4	3	3	3	4	4	4	2	3	4	4	4	1	2	1	1	2	3
72	3	3	4	5	3	3	4	4	3	4	4	4	4	3	4	5	2	2	1	2	4	3
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in lumina

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109	4	3	3	4	5	4	2	4	3	3	3	3	3	4	3	3	1	2	1	3	3	3
110	3	3	3	3	5	3	3	4	4	4	4	4	4	4	4	4	2	2	2	3	3	4
Average	3.51	3.42	3.75	3.63	4.31	3.25	3.65	3.45	3.49	3.73	3.6	3.55	3.73	3.7	3.61	4.04	1.95	2.08	2.07	1.79	3.17	3.52

JUZ AFI

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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6	3	2	3	3	3	3	2	2	4	4	2	3	3	3	2	2	2	2	2	2	4	4
7	3	2	3	3	3	3	4	2	3	3	3	4	3	3	4	2	2	3	3	5	4	3
8	4	3	2	3	3	3	4	2	4	3	3	4	3	4	3	3	2	2	4	4	3	3
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11	3	4	3	3	3	4	4	3	4	4	3	4	4	3	3	3	2	2	3	4	4	4
12	3	3	4	3	2	3	4	2	4	4	3	4	4	3	2	3	1	2	4	4	4	5
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15	4	2	3	3	3	2	4	3	5	4	3	4	4	4	2	2	1	1	3	3	4	3
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27	4	3	3	5	2	5	4	2	4	4	5	4	3	4	2	2	1	1	4	4	4	4
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in lumine

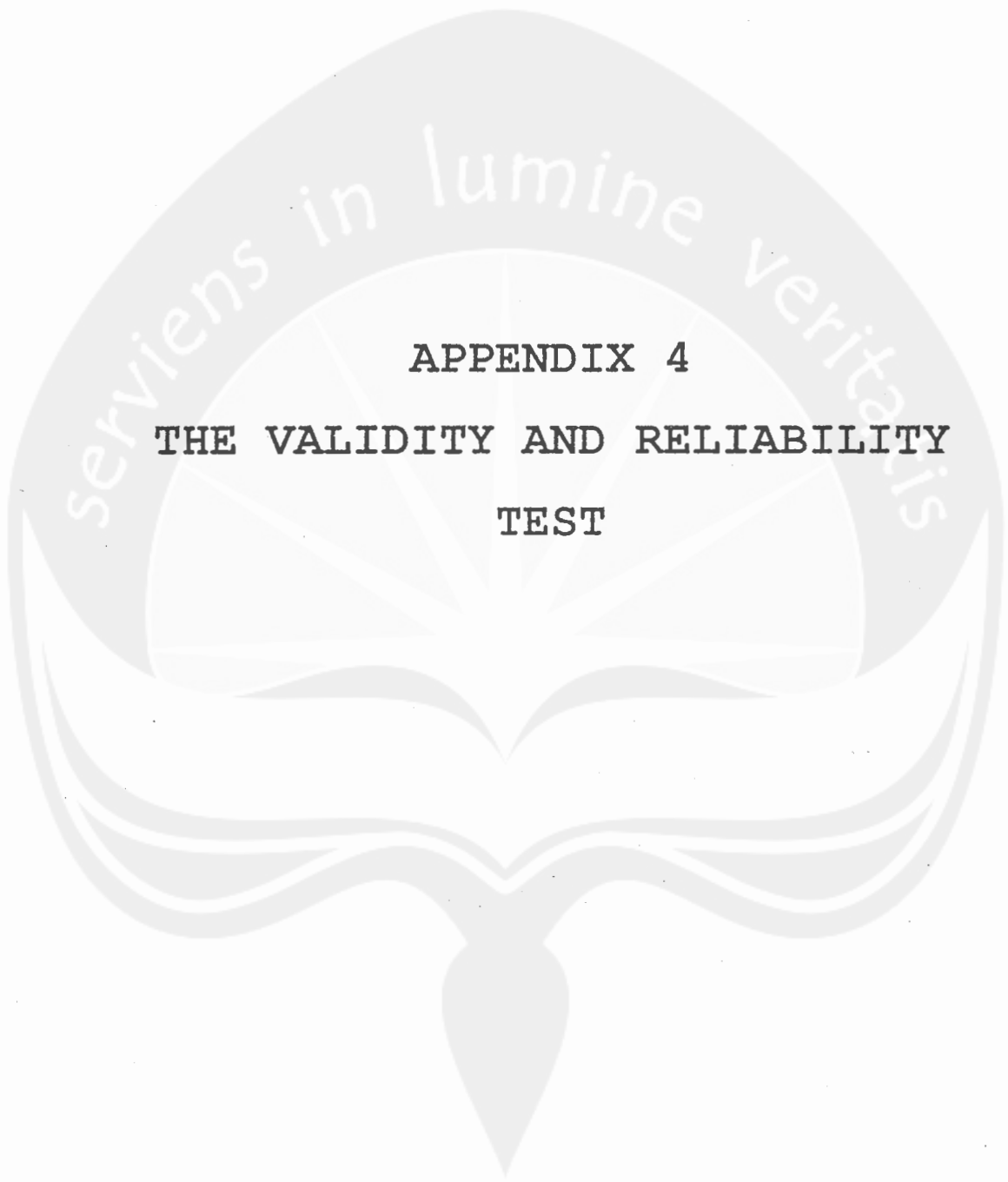
Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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30	4	3	5	3	3	5	4	2	4	3	2	3	4	3	3	2	2	2	3	4	3	4
31	3	2	4	3	4	4	3	2	3	3	3	4	4	3	4	3	3	1	2	4	4	3
32	5	4	3	4	3	3	3	2	4	3	3	3	3	3	3	3	2	1	3	2	4	4
33	3	4	3	3	2	3	4	2	3	4	3	4	4	3	2	3	1	2	3	4	4	3
34	4	3	3	3	4	2	4	3	4	4	2	4	3	2	2	3	1	2	2	3	4	3
35	4	5	3	4	2	3	4	2	3	4	3	3	4	2	3	2	2	2	3	4	4	3
36	4	2	3	3	3	3	3	3	4	4	4	4	3	3	2	3	1	1	2	3	3	4
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43	3	4	3	3	3	2	3	2	3	4	3	3	4	3	4	4	2	2	3	4	3	3
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in lumine

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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60	4	2	3	3	3	3	4	2	3	3	4	3	3	4	3	2	2	3	3	4	4	4
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62	4	2	4	3	3	3	3	2	3	4	3	4	3	4	4	2	2	2	4	3	3	4
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65	3	2	3	3	2	3	3	2	3	3	3	3	3	4	4	3	1	2	3	3	3	4
66	3	4	3	5	2	5	4	4	4	4	3	4	4	4	3	4	4	2	4	3	4	4
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in lumine

Responden	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
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Average	3.5	2.97	3.25	3.38	3.27	3.24	3.75	2.47	3.55	3.69	3.19	3.55	3.65	3.41	2.98	2.76	1.84	2.06	3.32	3.85	3.69	3.58



APPENDIX 4
THE VALIDITY AND RELIABILITY
TEST

Importance

Reliability

***** Method 1 (space saver) will be used for this analysis *****

RELIABILITY ANALYSIS - SCALE (ALPHA)

		Mean	Std Dev	Cases
1.	P1	4.0182	.6205	110.0
2.	P2	4.5182	.6871	110.0
3.	P3	4.6455	.5840	110.0
4.	P4	3.5909	.7816	110.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	16.7727	2.5442	1.5951	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
P1	12.7545	1.8383	.1907	.3380
P2	12.2545	1.6777	.2215	.3047
P3	12.1273	1.8736	.2062	.3247
P4	13.1818	1.5079	.2216	.3081

Reliability Coefficients

N of Cases = 110.0

N of Items = 4

Alpha = .3852

Reliability

***** Method 1 (space saver) will be used for this analysis *****

RELIABILITY ANALYSIS - SCALE (ALPHA A)

		Mean	Std Dev	Cases
1.	P5	4.0000	.6773	110.0
2.	P6	3.9455	.5721	110.0
3.	P7	4.0364	.5735	110.0
4.	P8	4.0818	.6078	110.0
5.	P9	3.8364	.5831	110.0
6.	P10	3.6636	.5947	110.0
7.	P11	3.3091	.5543	110.0
8.	P12	3.4545	.6859	110.0
9.	P13	3.4091	.5468	110.0
10.	P14	4.0909	.6140	110.0
11.	P15	4.1091	.5958	110.0
12.	P16	4.8273	.4253	110.0
13.	P17	3.5545	.6579	110.0
14.	P18	3.6818	.6197	110.0
15.	P19	3.7909	.6649	110.0
16.	P20	3.5091	.7985	110.0
17.	P21	3.1091	.4948	110.0
18.	P22	3.8636	.4589	110.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	68.2727	18.0167	4.2446	18

RELIABILITY ANALYSIS - SCALE (ALPHA
A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
P5	64.2727	16.4204	.2073	.6703
P6	64.3273	16.7359	.2037	.6694
P7	64.2364	16.2922	.3014	.6588
P8	64.1909	16.1559	.3053	.6580
P9	64.4364	16.0831	.3408	.6543
P10	64.6091	16.5889	.2217	.6676
P11	64.9636	16.2922	.3167	.6574
P12	64.8182	15.7832	.3235	.6553
P13	64.8636	16.1372	.3598	.6529
P14	64.1818	16.6639	.1947	.6709
P15	64.1636	16.3583	.2705	.6621
P16	63.4455	17.1851	.1845	.6706
P17	64.7182	16.2226	.2569	.6639
P18	64.5909	16.4641	.2323	.6666
P19	64.4818	16.3254	.2325	.6670
P20	64.7636	15.6133	.2798	.6622
P21	65.1636	16.7436	.2539	.6643
P22	64.4091	16.7210	.2891	.6616

Reliability Coefficients

N of Cases = 110.0

N of Items = 18

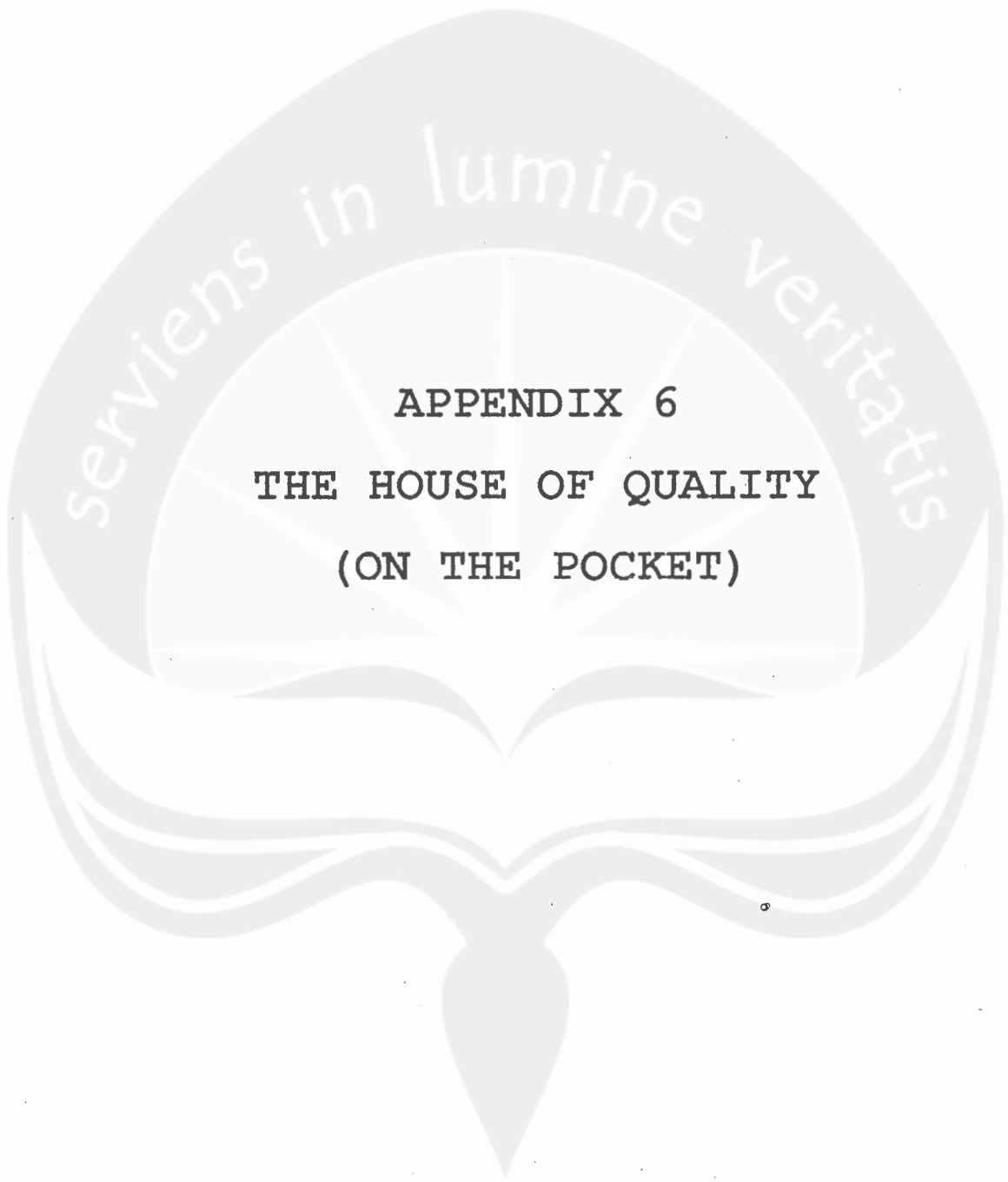
Alpha = .6757



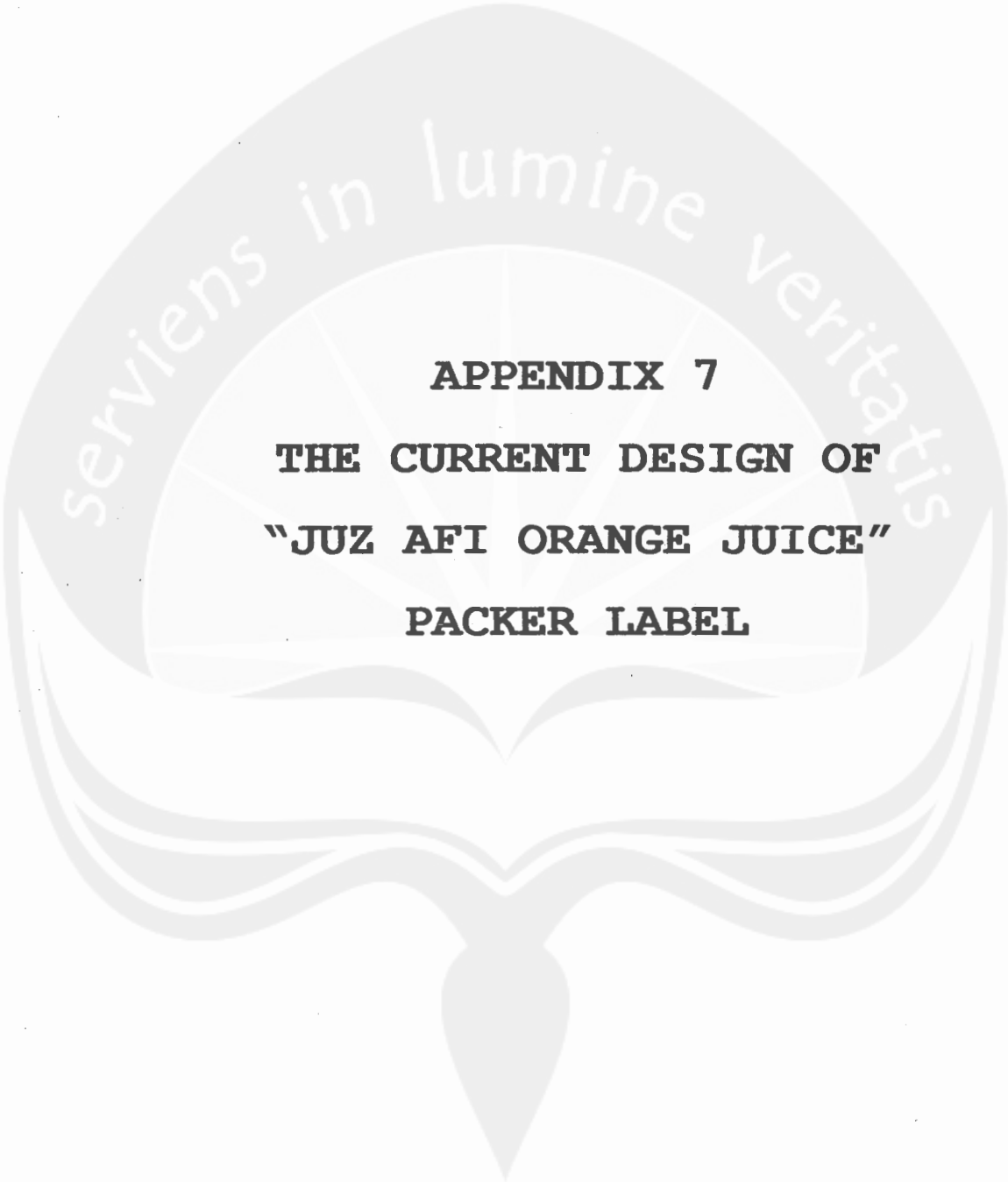
APPENDIX 5
THE PLANNING MATRIX

PLANNING MATRIX

Attributes	Customer Importance	Customer Satisfaction Performance	Competitive Satisfaction Performance	Goal	Improvement Ratio	Sales Point	Raw Weight	Normalized Raw Weight	Raw Weight (%)	Cumulative Normalized Raw Weight
Availability of expired date	4.83	2.76	4.04	5	1.5	1.5	13.125	0.132	13.202	13.20
Ease of opening the bottle cover	4.65	3.25	3.75	5	1.5	1.5	10.731	0.108	10.794	24.00
Ease of grasping / bringing the bottle	4.52	2.97	3.42	5	1.5	1.5	11.414	0.115	11.481	35.48
Availability of ingredients	4.11	2.98	3.65	4	1.5	1.2	6.620	0.067	6.659	42.14
Availability of nutrition facts	4.09	3.41	3.7	4	1.2	1.5	7.196	0.072	7.239	49.37
Ease to read the information	4.08	2.47	3.58	4	1.5	1.5	9.911	0.100	9.969	59.34
The color variation	4	3.27	4.31	4	1.5	1.5	7.339	0.074	7.382	66.73
The character variation	3.95	3.24	3.64	4	1.5	1.2	5.852	0.059	5.886	72.61
Availability of purchasing suggestion	3.68	2.06	4.15	4	1.5	1	7.146	0.072	7.187	79.80
Availability of weight product information	3.66	3.69	3.73	4	1.2	1	3.967	0.040	3.991	83.79
Ease of closing the bottle cover	3.59	3.38	3.63	4	1.2	1	4.249	0.043	4.273	88.06
Availability of saving suggestion	3.55	1.84	1.95	4	1.5	1	7.717	0.078	7.763	95.83
Availability of company name and company address	3.31	3.19	4.04	4	1.5	1	4.150	0.042	4.175	100.00
Total							99.418	1.000	100.000	



APPENDIX 6
THE HOUSE OF QUALITY
(ON THE POCKET)



serviens in lumine veritatis

APPENDIX 7
THE CURRENT DESIGN OF
"JUZ AFI ORANGE JUICE"
PACKER LABEL

Indo Regai

Indo Regai

JUZAFI

JUZAFI

ORANGE CRUSH!

Minuman Sari Buah Jeruk

ORANGE CRUSH!

Minuman Sari Buah Jeruk

Indo Regai
Juzafi
Minuman Sari Buah Jeruk

KOMPOSISI:
Air, Konsentrat Jeruk, Gula,
Asam Sitrat, Perisa Jeruk, Ekstrak
Panggul (INS400), Vitamin C,
Pewarna (Beta Karotin)

Informasi Nilai Gizi

Isi bersih 1.000 ml

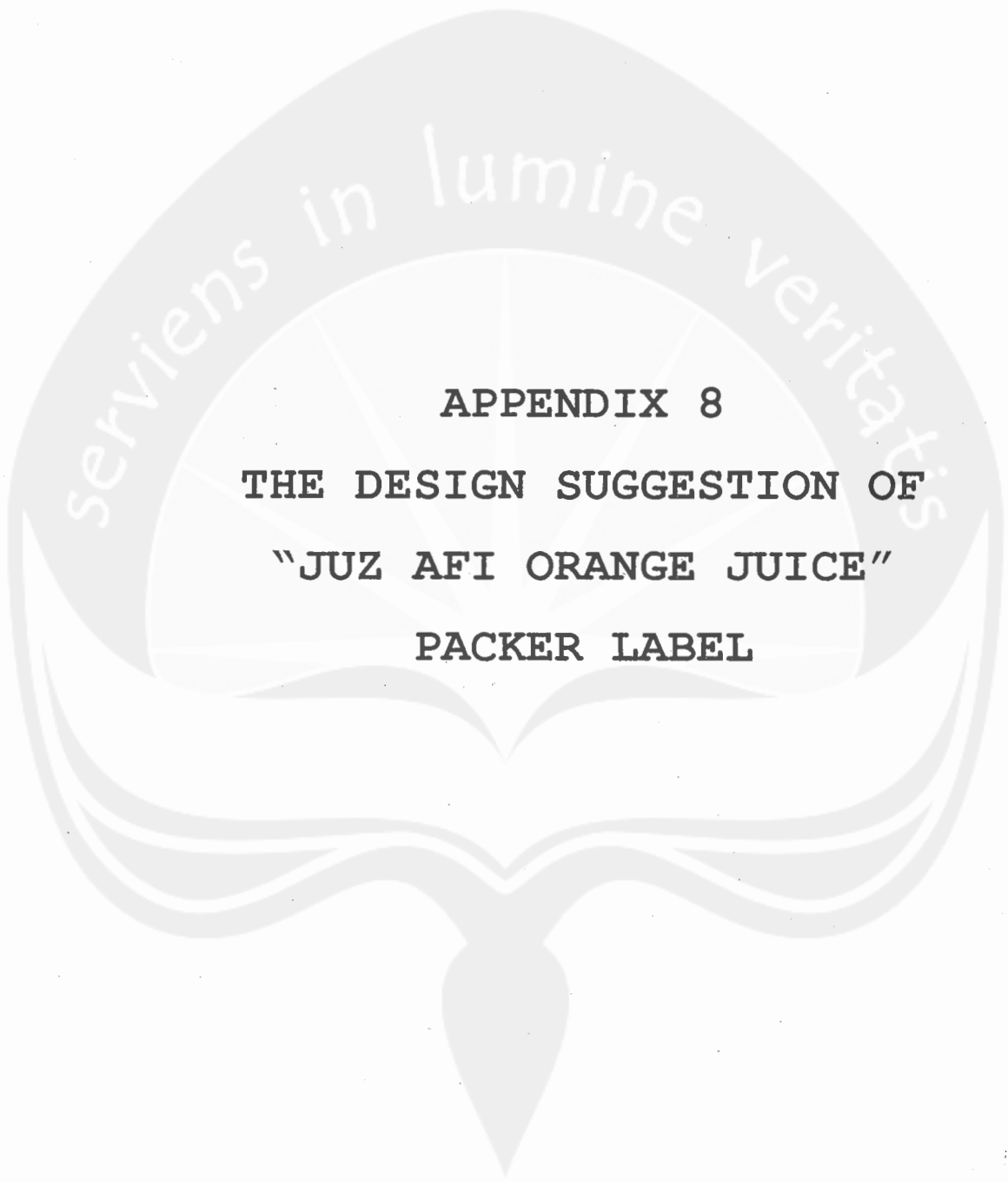
Perkiraan Nilai Gizi per 100 ml

Energi	120	2,4 kkal per 100 ml
Lemak Total	0,0	0,0%
Karbohidrat	28,0	5,6%
Protein	0,0	0,0%
Vitamin C	100	20,0%



Indo Regai
Indo Regai Group and Foods - 72 Boulevard
Jl. Jendral Sudirman No. 72 - 72013 Jakarta
Telp. (021) 290-18000

Isi bersih 1.000 ml



APPENDIX 8
THE DESIGN SUGGESTION OF
"JUZ AFI ORANGE JUICE"
PACKER LABEL

IndoSegar

IndoSegar

Expired date
12 Desember 2006

Netto 500 ml
BPOM RI No. 245809903309
260250-15-1

JUZAFI

JUZAFI

JANGAN DITERIMA
JIKA SEGEL RUSAK
LEBIH BAIK DISIMPAN
DI LEMARI PENDINGIN

Nikmat disajikan dingin
(disarankan habis dikonsumsi
setelah dibuka)

Komposisi

Air, Konsentrat Jeruk, Gula, Asam Sitrat,
Perisa Jeruk, Garam, Pengental INS466,
Vitamin C, Pewarna (Beta Karoten)

TANPA PENAMBAHAN
PENGAWET DAN
PEMANIS BUATAN

Informasi Nilai Gizi

Takaran Saji 1 gelas (250ml)
Takaran Saji per kemasan 2

Jumlah Per Saji	Energi	130	Energi dari Lemak 0	% AKG
Lemak Total	0g		0%	
Kolesterol	0g		0%	
Natrium	110mg		5%	
Karbohidrat Total	32g		10%	
Gula	30g			
Protein	0g		0%	
Vitamin C	60mg		80%	

*Persen AKG berdasarkan pada diet 2000 kalori

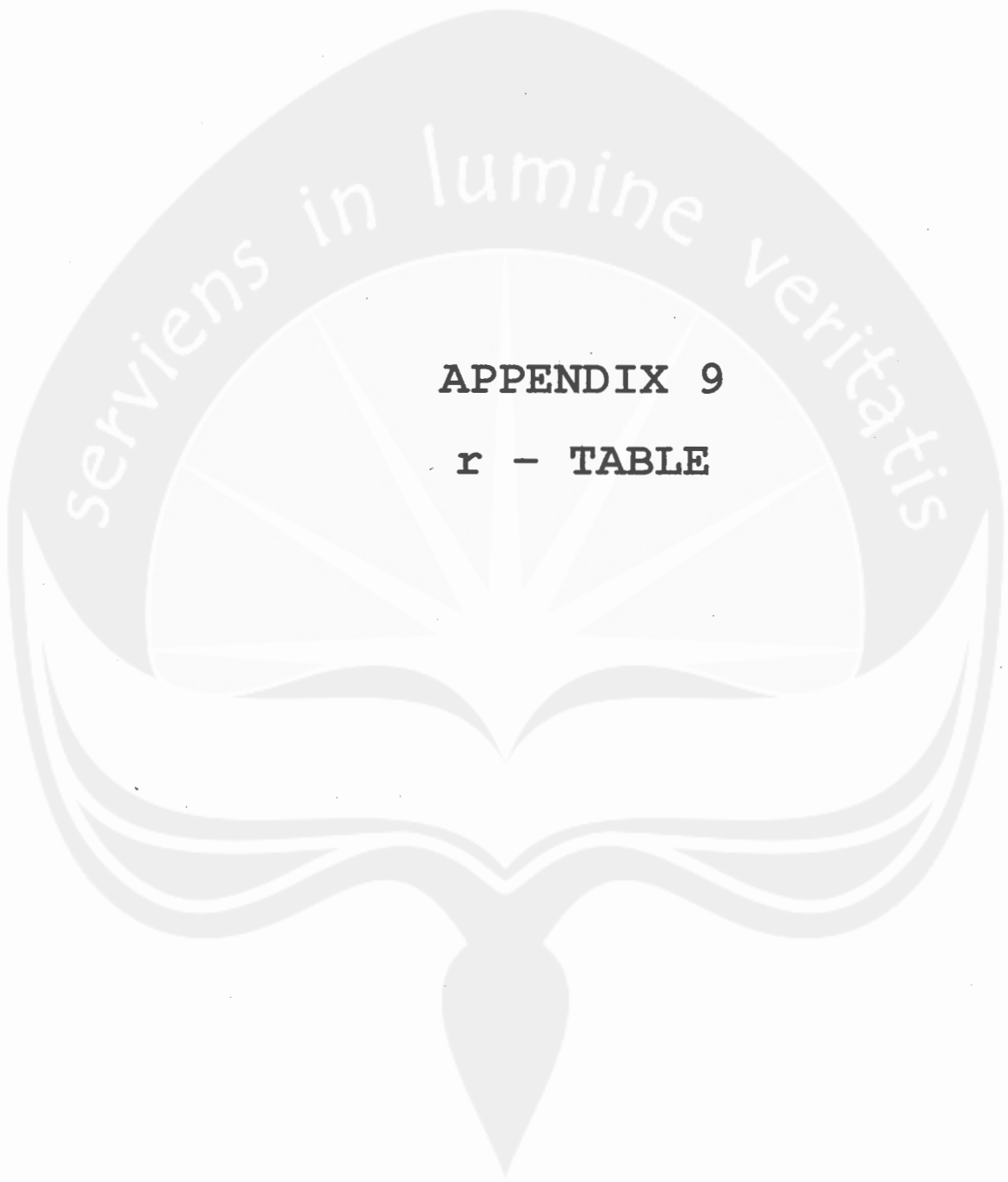
ORANGE
CRUSH!
MINUMAN SARI BUATAN JERUK

ORANGE
CRUSH!
MINUMAN SARI BUATAN JERUK

Diproduksi oleh :
Dongshan GreenLand Foods - PRC untuk
PT Superfine International Beverages Industries,
Jakarta 14240 - Indonesia



8 992702 018013

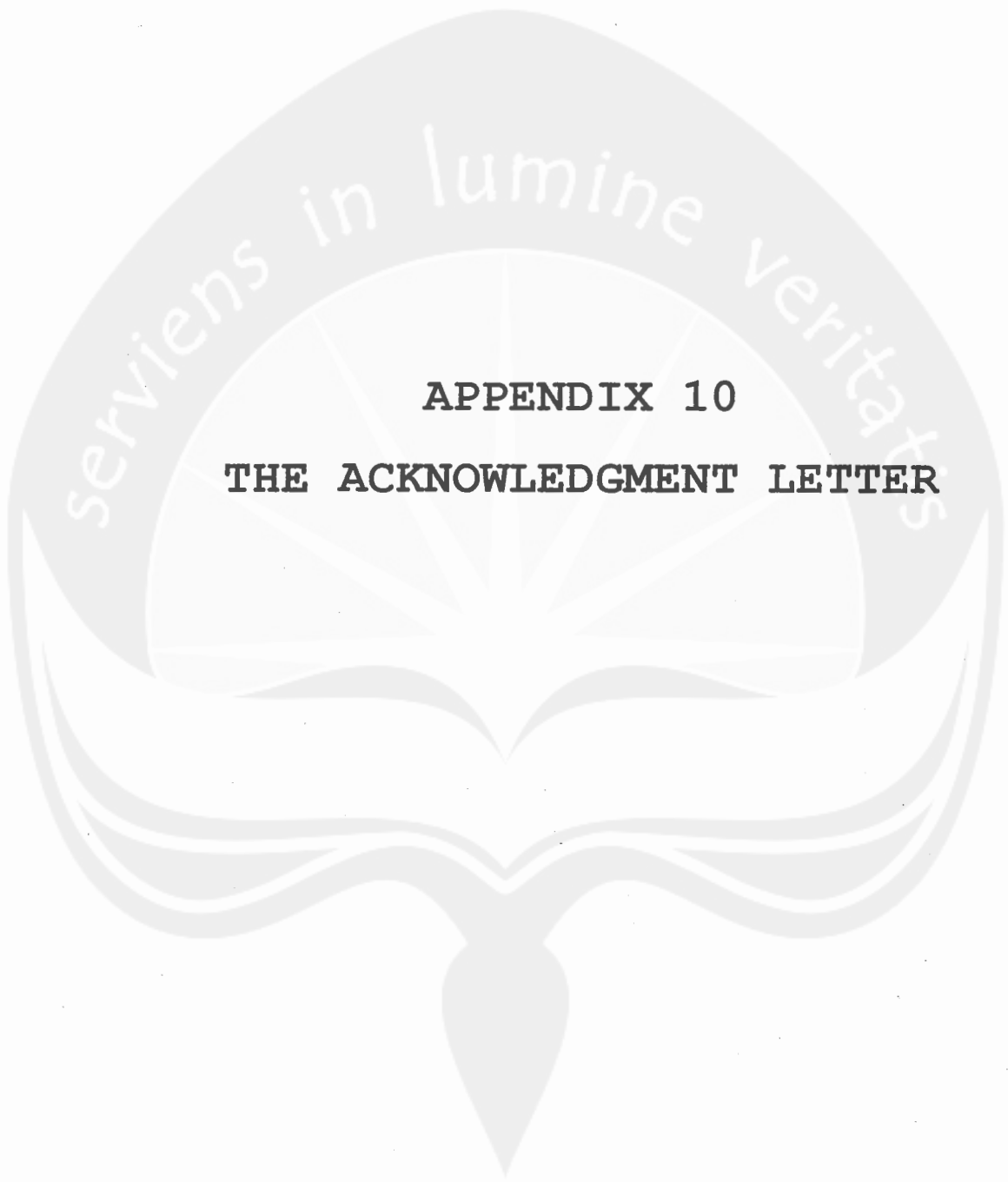


APPENDIX 9

r - TABLE

TABEL R 5%

N	R	N	R	N	R	N	R
1	,951	51	,179	101	,127	151	,104
2	,800	52	,177	102	,127	152	,104
3	,687	53	,175	103	,126	153	,103
4	,608	54	,174	104	,125	154	,103
5	,551	55	,172	105	,125	155	,103
6	,507	56	,171	106	,124	156	,103
7	,472	57	,169	107	,124	157	,102
8	,443	58	,168	108	,123	158	,102
9	,419	59	,166	109	,123	159	,102
10	,398	60	,165	110	,122	160	,102
11	,380	61	,164	111	,121	161	,101
12	,365	62	,162	112	,121	162	,101
13	,351	63	,161	113	,120	163	,101
14	,338	64	,160	114	,120	164	,100
15	,327	65	,159	115	,119	165	,100
16	,317	66	,157	116	,119	166	,100
17	,308	67	,156	117	,118	167	,099
18	,299	68	,155	118	,118	168	,099
19	,291	69	,154	119	,117	169	,099
20	,284	70	,153	120	,117	170	,098
21	,277	71	,152	121	,116	171	,098
22	,271	72	,151	122	,116	172	,098
23	,265	73	,150	123	,115	173	,098
24	,260	74	,149	124	,115	174	,097
25	,255	75	,148	125	,114	175	,097
26	,250	76	,147	126	,114	176	,097
27	,245	77	,146	127	,114	177	,097
28	,241	78	,145	128	,113	178	,096
29	,237	79	,144	129	,113	179	,096
30	,233	80	,143	130	,112	180	,096
31	,229	81	,142	131	,112	181	,095
32	,225	82	,141	132	,111	182	,095
33	,222	83	,140	133	,111	183	,095
34	,219	84	,140	134	,111	184	,095
35	,216	85	,139	135	,110	185	,094
36	,213	86	,138	136	,110	186	,094
37	,210	87	,137	137	,109	187	,094
38	,207	88	,136	138	,109	188	,094
39	,204	89	,136	139	,109	189	,093
40	,202	90	,135	140	,108	190	,093
41	,199	91	,134	141	,108	191	,093
42	,197	92	,133	142	,107	192	,093
43	,195	93	,133	143	,107	193	,092
44	,192	94	,132	144	,107	194	,092
45	,190	95	,131	145	,106	195	,092
46	,188	96	,131	146	,106	196	,092
47	,186	97	,130	147	,106	197	,091
48	,184	98	,129	148	,105	198	,091
49	,182	99	,129	149	,105	199	,091
50	,181	100	,128	150	,105	200	,091



APPENDIX 10
THE ACKNOWLEDGMENT LETTER

CITROULI SWALAYAN

Jln. Babar Sari Raya 116
Telp. / Fax. (0274) 487352
Yogyakarta 55281

Yogyakarta, 13 Maret 2006

Kepada, Yth Dekan Fakultas Teknologi Industri
Universitas Atma Jaya Yogyakarta
Jln. Babar Sari 43
Yogyakarta 55281

Dengan hormat,

Saya yang bertanda tangan di bawah ini:

Nama : Jatic

Jabatan : Pimpinan Citrouli Swalayan

menerangkan bahwa:

Nama : Christian Susanto

Mahasiswa : Program studi Teknik Industri kelas Internasional,
Fakultas Teknologi Industri Universitas Atma Jaya
Yogyakarta.

telah melakukan wawancara untuk mendapatkan data tambahan tugas akhir di
Citrouli Swalayan pada tanggal 13 Maret 2006.

Demikian surat ini saya buat untuk dapat digunakan seperlunya.

Yogyakarta, 13 Maret 2006





PURNAMA[®]
Mini Market

Jl. Karang Wulansari 14 (Depan Jamu Jago)
Telp. : (024) 3518586. Fax. : (024) 3518503
SEMARANG - 50136

SURAT KETERANGAN

Semarang, 6 maret 2006

Kepada , Yth Dekan Fakultas Teknologi Industri
Universitas Atma Jaya Yogyakarta
Di Tempat

Dengan hormat,

Yang bertanda tangan di bawah ini menerangkan bahwa :

Nama : Christian Susanto

Mahasiswa : Program studi Teknik Industri kelas International,
Fakultas Teknologi Industri Universitas Atma Jaya
Yogyakarta

Telah melakukan wawancara untuk memperoleh data tambahan untuk tugas akhir di Mini Market PURNAMA pada tanggal 5 maret 2006.
Demikian surat keterangan ini saya buat untuk dapat digunakan seperlunya

Hormat kami

Yan Kurniawan
Pimpinan

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Jl. Karang Wulansari 14 (Depan Jamu Jago)
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SEMARANG - 50136