

## CHAPTER IV

### DATA COLLECTION AND PROCESSING

In this chapter, the process of collecting and processing the data used in this study will be presented. There are several steps taken in the process of collecting and processing data. The first step taken is the questionnaire item validation test. Afterwards, the data collection and analysis are carried out in 3 stages. The steps taken are the measurement model evaluation test (outer model), evaluation of the structural model (inner model) and hypothesis.

#### 1.1. Item Validation Test

The first step used to find out the validity of the statement that will be presented to the respondent is to test the questionnaire item. In this test, 115 data were obtained from the number of respondents who had filled out the questionnaire. In table 4.1 shows the one used in this test.

Table 4.1 Data Respondent

<b>N<sup>o</sup></b>	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>I1</b>	<b>I2</b>	<b>I3</b>	<b>I4</b>	<b>I5</b>	<b>CS1</b>	<b>CS2</b>	<b>CS3</b>	<b>CS4</b>	<b>BT1</b>	<b>BT2</b>	<b>BT3</b>
1	5	5	4	4	4	3	4	3	4	3	3	3	4	4	5
2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5
3	2	3	2	2	2	2	2	2	4	3	3	4	4	4	4
4	5	5	5	4	4	4	4	3	5	5	4	4	4	4	5
5	2	3	2	2	3	2	2	2	5	4	4	4	4	4	4
6	3	3	2	2	2	2	2	2	5	3	4	4	4	3	3

N <sup>o</sup>	A1	A2	A3	I1	I2	I3	I4	I5	CS1	CS2	CS3	CS4	BT1	BT2	BT3
7	5	5	4	3	3	3	3	2	4	4	4	4	4	4	4
8	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5
9	4	4	4	5	4	3	3	3	5	4	4	4	4	4	4
10	4	4	3	3	3	2	3	2	5	4	4	4	4	4	4
11	5	4	3	4	4	4	4	3	5	5	5	5	4	4	4
12	5	4	5	4	4	2	2	2	4	3	3	3	4	4	3
13	2	2	4	4	4	4	5	5	4	4	4	5	5	5	5
14	4	3	5	2	2	4	4	3	5	2	4	3	3	3	4
15	4	2	4	3	2	5	5	3	4	4	3	4	4	3	4
16	1	1	1	1	1	1	1	1	4	2	3	3	5	5	5
17	4	4	3	3	4	3	3	2	4	4	4	4	4	4	4
18	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
19	2	3	2	2	2	1	1	1	4	3	3	3	3	3	4
20	2	2	2	2	2	2	2	2	4	2	3	4	3	3	4
21	4	3	3	4	4	3	4	3	3	3	4	3	3	3	3
22	4	4	4	4	4	3	4	3	5	5	4	5	5	5	5
23	3	3	2	3	3	3	3	3	3	3	3	3	4	3	3
24	2	3	2	2	2	2	2	1	4	3	3	3	3	3	3
25	3	2	2	2	2	2	2	2	2	3	2	2	4	2	4
26	3	3	3	3	3	3	3	3	5	4	4	4	4	4	4
27	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
28	4	4	4	5	3	3	4	2	5	4	4	5	5	4	4
29	4	3	3	4	3	3	4	3	4	3	4	4	4	4	4
30	3	3	3	3	3	2	2	2	4	4	4	4	4	4	4
31	4	3	3	4	4	3	3	3	3	4	3	4	3	3	4
32	3	4	3	2	2	2	2	3	4	3	3	4	4	4	4
33	3	4	4	4	4	4	3	4	4	4	3	4	4	4	4
34	4	4	4	4	4	4	4	5	4	4	4	5	5	4	4
35	3	4	4	3	3	3	3	3	4	3	3	4	3	3	3
36	4	4	3	3	4	3	3	3	4	3	3	4	4	4	4
37	4	4	4	3	3	2	2	4	3	3	3	3	4	3	3
38	2	3	3	5	1	3	1	3	4	1	4	4	1	2	3
39	4	4	3	4	4	4	3	3	4	4	4	4	5	5	5
40	4	3	3	3	3	2	3	2	4	3	3	4	3	2	3
41	3	3	3	4	4	4	4	4	4	3	3	3	3	3	4
42	2	3	2	2	2	1	2	1	3	2	3	3	3	3	3
43	2	4	3	1	1	1	1	1	3	2	2	3	3	3	3
44	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3
45	5	5	4	5	5	4	4	4	5	5	5	5	5	5	5



<b>N<sup>o</sup></b>	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>I1</b>	<b>I2</b>	<b>I3</b>	<b>I4</b>	<b>I5</b>	<b>CS1</b>	<b>CS2</b>	<b>CS3</b>	<b>CS4</b>	<b>BT1</b>	<b>BT2</b>	<b>BT3</b>
85	1	1	1	1	1	1	1	1	5	3	4	3	3	2	4
86	4	5	4	4	4	4	4	3	4	5	4	5	5	5	5
87	4	3	3	3	3	2	2	1	5	4	4	5	4	4	4
88	4	4	4	4	4	3	4	3	4	2	3	3	4	4	4
89	4	4	4	4	3	3	3	2	4	3	3	4	3	3	4
90	4	4	3	3	3	3	3	3	5	4	4	4	4	3	5
91	2	2	3	3	3	3	3	4	1	1	1	1	1	1	1
92	2	2	2	3	3	1	1	1	5	3	3	5	4	4	5
93	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4
94	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4
95	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
96	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2
97	3	3	1	2	3	2	2	3	5	4	4	4	4	4	4
98	3	3	3	3	3	3	3	3	5	4	4	4	4	4	4
99	5	3	4	3	2	2	2	2	5	5	5	5	4	4	4
100	1	1	1	1	1	1	1	1	4	3	3	3	2	2	2
101	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
102	3	4	3	3	3	3	3	3	5	4	4	4	4	4	4
103	3	3	3	4	4	3	4	3	4	4	3	4	4	4	4
104	4	4	4	5	5	5	4	4	5	4	5	4	4	5	5
105	4	4	4	4	4	4	4	4	5	5	5	5	4	4	5
106	3	4	3	3	3	3	3	3	4	4	4	4	4	4	4
107	3	4	3	3	4	3	3	3	3	3	4	5	3	3	3
108	4	3	3	4	2	4	3	4	3	2	4	3	3	2	4
109	5	5	4	4	4	4	4	2	4	4	4	4	4	4	4
110	4	3	3	4	4	4	3	3	3	3	3	4	3	3	3
111	3	3	3	2	2	2	2	2	4	4	4	4	4	4	4
112	4	4	4	4	3	3	3	3	4	4	4	4	4	4	4
113	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
114	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4
115	5	5	5	5	5	3	4	3	5	5	3	5	5	5	5

From the 115 data obtained from these respondents, hence it will be tested for validity, and also reliability testing. According to Ghozali (2014) the minimum requirements used in testing are 30 respondents.

### 1.1.1. Questionnaire Validation Test

In order to find out the validity of the existing statement, questionnaires that have been distributed to respondents were tested using SPSS software. If there are invalid statements, correction will be made. The correction in statement can be in the form of replacing the statement or omitting the statement. Figure 4.1 is the result of the validity test that has been carried out.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
A1	98.78	381.979	.656	.749
A2	98.84	384.151	.662	.750
A3	99.10	381.684	.702	.748
I1	99.11	376.452	.770	.744
I2	99.11	377.084	.767	.744
I3	99.43	378.248	.730	.746
I4	99.33	377.557	.753	.745
I5	99.57	382.686	.644	.749
CS1	98.25	390.717	.528	.755
CS2	98.78	383.487	.694	.749
CS3	98.71	388.364	.649	.753
CS4	98.52	386.620	.651	.752
BT1	98.60	386.839	.706	.751
BT2	98.72	385.396	.714	.750
BT3	98.42	391.228	.600	.755
Total	51.15	102.478	1.000	.928

Figure 4.1 Validity Test Result

From Figure 4.1 it can be seen the calculation of R value in the column Corrected Item-Total Correlation. The validity statement on the questionnaire is used on how to compare the calculated R value with R table. The value of R table is obtained from  $DF = N-2$  with a probability of 0.05, where N is the number of respondents used. The value of DF (113) or R table with a probability of 0.05 is 0.183. From these calculations, it can be explained that  $R_{count} > R_{table}$ . From the results that have been tested, it can be concluded that all data is valid.

### 1.1.2. Questionnaire Reliability Test

Reliability test is also one of the required tests in addition to the validity test. The measurement can be said to be reliable if the measurements made produce the same data. On the contrary, these measurements are not reliable if the measurements made produce different data. Figure 4.2 is the result of the reliability test that has been carried out.

Cronbach's Alpha	N of Items
.928	15

Figure 4.2 Reliability Test Result

Reliability test results are shown by the Cronbach's Alpha column in Figure 4.2. For N of Item shows the number of indicators used in testing. The number of indicators used is 15. This is because 1 of the 15 indicators used in the test is the total of the indicators used. For the reliability test results of each indicator can be seen in

Figure 4.1. To find out the value of R table is obtained from  $DF = N-2$  with a probability of 0.05. The value of DF (113) or R table with a probability of 0.05 is 0.183. From these calculations, the results obtained are 0.760 which shows that  $R_{counts} > R_{table}$ . This means that the statements tested are reliable and can be used in research.

## 1.2. Data Collection

Data collection conducted in this study uses an online questionnaire in the form of google form. Questionnaires submitted to respondents totalled 15 statements. The data used in this study has been tested for its validity on each item of statement. The number of respondents in this questionnaire is 115 consumers who have used or known the Starbucks Coffee product. Characteristics and responses of respondents who filled out the questionnaire can be seen in Table 4.2 and Table 4.3.

Table 4.2 Respondent Characteristic

Variable	Total	Percentage
<b>Gender</b>		
Male	32	28.57%
Female	80	71.43%
<b>Age</b>		
17 - 20 years old	4	3%
21 - 24 years old	107	92%
24 - 28 years old	4	3%
> 28 years old	1	1%
<b>Job</b>		
Job seeker	4	3%
Employee	9	8%
Student	96	83%
Entrepreneur	6	5%

Table 4.3 Data Respondent

N <sub>0</sub>	A1	A2	A3	I1	I2	I3	I4	I5	CS1	CS2	CS3	CS4	BT1	BT2	BT3
1	5	5	4	4	4	3	4	3	4	3	3	3	4	4	5
2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5
3	2	3	2	2	2	2	2	2	4	3	3	4	4	4	4
4	5	5	5	4	4	4	4	3	5	5	4	4	4	4	5
5	2	3	2	2	3	2	2	2	5	4	4	4	4	4	4
6	3	3	2	2	2	2	2	2	5	3	4	4	4	3	3
7	5	5	4	3	3	3	3	2	4	4	4	4	4	4	4
8	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5
9	4	4	4	5	4	3	3	3	5	4	4	4	4	4	4
10	4	4	3	3	3	2	3	2	5	4	4	4	4	4	4
11	5	4	3	4	4	4	4	3	5	5	5	5	4	4	4
12	5	4	5	4	4	2	2	2	4	3	3	3	4	4	3
13	2	2	4	4	4	4	5	5	4	4	4	5	5	5	5
14	4	3	5	2	2	4	4	3	5	2	4	3	3	3	4
15	4	2	4	3	2	5	5	3	4	4	3	4	4	3	4
16	1	1	1	1	1	1	1	1	4	2	3	3	5	5	5
17	4	4	3	3	4	3	3	2	4	4	4	4	4	4	4
18	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
19	2	3	2	2	2	1	1	1	4	3	3	3	3	3	4
20	2	2	2	2	2	2	2	2	4	2	3	4	3	3	4
21	4	3	3	4	4	3	4	3	3	3	4	3	3	3	3
22	4	4	4	4	4	3	4	3	5	5	4	5	5	5	5
23	3	3	2	3	3	3	3	3	3	3	3	3	4	3	3
24	2	3	2	2	2	2	2	1	4	3	3	3	3	3	3
25	3	2	2	2	2	2	2	2	2	3	2	2	4	2	4
26	3	3	3	3	3	3	3	3	5	4	4	4	4	4	4
27	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
28	4	4	4	5	3	3	4	2	5	4	4	5	5	4	4
29	4	3	3	4	3	3	4	3	4	3	4	4	4	4	4
30	3	3	3	3	3	2	2	2	4	4	4	4	4	4	4
31	4	3	3	4	4	3	3	3	3	4	3	4	3	3	4
32	3	4	3	2	2	2	2	3	4	3	3	4	4	4	4
33	3	4	4	4	4	4	3	4	4	4	3	4	4	4	4
34	4	4	4	4	4	4	4	5	4	4	4	5	5	4	4
35	3	4	4	3	3	3	3	3	4	3	3	4	3	3	3
36	4	4	3	3	4	3	3	3	4	3	3	4	4	4	4
37	4	4	4	3	3	2	2	4	3	3	3	3	4	3	3



N <sup>o</sup>	A1	A2	A3	I1	I2	I3	I4	I5	CS1	CS2	CS3	CS4	BT1	BT2	BT3
38	2	3	3	5	1	3	1	3	4	1	4	4	1	2	3
39	4	4	3	4	4	4	3	3	4	4	4	4	5	5	5
40	4	3	3	3	3	2	3	2	4	3	3	4	3	2	3
41	3	3	3	4	4	4	4	4	4	3	3	3	3	3	4
42	2	3	2	2	2	1	2	1	3	2	3	3	3	3	3
43	2	4	3	1	1	1	1	1	3	2	2	3	3	3	3
44	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3
45	5	5	4	5	5	4	4	4	5	5	5	5	5	5	5
46	4	4	3	5	4	2	2	3	5	3	4	4	4	4	4
47	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
48	3	4	4	4	5	3	4	4	4	4	3	4	4	4	4
49	5	5	4	1	1	1	1	1	1	1	1	1	1	1	5
50	4	3	4	4	4	3	3	3	4	4	3	4	3	3	3
51	5	5	4	5	5	3	5	4	4	3	4	4	4	3	5
52	5	4	2	3	3	4	3	3	3	2	3	3	3	4	3
53	4	4	4	4	4	4	4	3	5	4	5	4	4	4	4
54	4	4	3	2	2	1	1	1	4	4	4	4	4	4	4
55	3	3	3	3	3	3	3	3	4	3	3	3	4	4	4
56	3	3	3	3	3	3	3	3	4	4	3	3	3	3	3
57	1	1	1	1	1	1	1	1	2	1	2	1	2	2	3
58	5	5	5	2	2	2	2	2	5	4	4	4	4	4	4
59	4	3	1	2	4	1	4	1	4	3	2	3	2	2	3
60	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
61	4	4	4	4	4	3	4	3	4	4	4	4	4	4	4
62	2	2	2	2	2	1	2	3	5	4	5	5	4	4	4
63	3	3	4	3	3	4	3	4	3	3	3	3	3	3	3
64	3	3	3	4	4	4	4	4	5	5	5	5	4	3	4
65	4	4	4	5	4	4	4	3	4	3	3	3	4	4	4
66	3	3	3	3	3	2	3	3	3	3	4	3	3	3	3
67	4	3	2	3	3	3	2	2	4	4	3	3	4	2	2
68	4	3	3	3	3	4	4	2	4	4	4	4	4	4	4
69	4	3	3	3	3	3	3	3	4	4	3	4	4	4	4
70	4	4	4	4	4	4	3	3	4	4	4	4	4	4	4
71	5	3	3	3	4	4	3	3	3	2	4	3	4	4	4
72	5	3	4	2	5	2	4	1	5	4	3	2	4	3	3
73	4	4	3	3	3	2	2	2	5	4	4	4	4	4	4
74	3	4	5	3	3	3	3	3	5	3	4	4	4	3	4
75	3	4	3	4	3	3	3	3	4	4	3	4	3	3	4
76	4	4	4	3	4	3	3	3	3	4	4	3	3	4	4

<b>N<sup>o</sup></b>	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>I1</b>	<b>I2</b>	<b>I3</b>	<b>I4</b>	<b>I5</b>	<b>CS1</b>	<b>CS2</b>	<b>CS3</b>	<b>CS4</b>	<b>BT1</b>	<b>BT2</b>	<b>BT3</b>
77	2	3	1	1	1	1	1	1	5	4	3	4	3	3	4
78	1	1	1	2	2	1	2	1	4	4	4	5	3	3	3
79	4	4	4	3	4	3	3	3	5	4	4	5	4	4	5
80	4	4	4	4	4	4	4	2	5	4	4	4	4	4	5
81	3	2	2	2	4	2	2	2	4	4	4	4	3	3	3
82	4	4	4	4	4	4	4	4	4	3	3	4	4	4	4
83	5	5	3	1	1	1	1	1	5	5	5	5	5	5	5
84	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4
85	1	1	1	1	1	1	1	1	5	3	4	3	3	2	4
86	4	5	4	4	4	4	4	3	4	5	4	5	5	5	5
87	4	3	3	3	3	2	2	1	5	4	4	5	4	4	4
88	4	4	4	4	4	3	4	3	4	2	3	3	4	4	4
89	4	4	4	4	3	3	3	2	4	3	3	4	3	3	4
90	4	4	3	3	3	3	3	3	5	4	4	4	4	3	5
91	2	2	3	3	3	3	3	4	1	1	1	1	1	1	1
92	2	2	2	3	3	1	1	1	5	3	3	5	4	4	5
93	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4
94	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4
95	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
96	2	2	2	1	1	1	1	1	1	1	1	1	2	2	2
97	3	3	1	2	3	2	2	3	5	4	4	4	4	4	4
98	3	3	3	3	3	3	3	3	5	4	4	4	4	4	4
99	5	3	4	3	2	2	2	2	5	5	5	5	4	4	4
100	1	1	1	1	1	1	1	1	4	3	3	3	2	2	2
101	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
102	3	4	3	3	3	3	3	3	5	4	4	4	4	4	4
103	3	3	3	4	4	3	4	3	4	4	3	4	4	4	4
104	4	4	4	5	5	5	4	4	5	4	5	4	4	5	5
105	4	4	4	4	4	4	4	4	5	5	5	5	4	4	5
106	3	4	3	3	3	3	3	3	4	4	4	4	4	4	4
107	3	4	3	3	4	3	3	3	3	3	4	5	3	3	3
108	4	3	3	4	2	4	3	4	3	2	4	3	3	2	4
109	5	5	4	4	4	4	4	2	4	4	4	4	4	4	4
110	4	3	3	4	4	4	3	3	3	3	3	4	3	3	3
111	3	3	3	2	2	2	2	2	4	4	4	4	4	4	4
112	4	4	4	4	3	3	3	3	4	4	4	4	4	4	4
113	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
114	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4
115	5	5	5	5	5	3	4	3	5	5	3	5	5	5	5

### **1.3. Data Processing**

The next stage after obtaining a valid questionnaire data, further research was carried out using Structural Equation Modelling (SEM) analysis. The software used for this research is IBM SPSS AMOS 22. There are several steps that will be carried out in SEM analysis. The following are the results obtained based on the sequence of stages carried out.

#### **1.3.1. Measurement Model Testing**

Measurement model test is to examine the relationship between indicators with latent variables. The measurement test results can be seen in Figure 4.3.

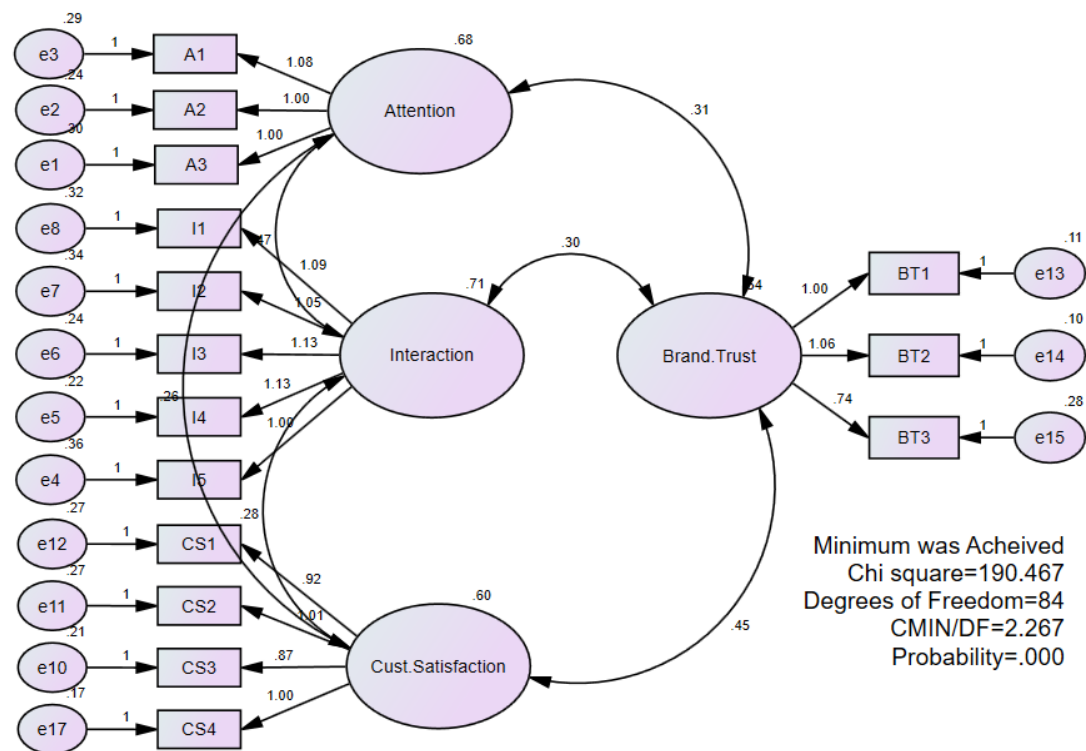


Figure 4.3 Measurement Model

Test of the measurement model shows that this model is in accordance with the data or fit to the data used in this study. Although the Chi-Square value is quite large at 190,467, the Chi-Square value is affected by the degree of freedom. In this study the degree of freedom is 84. If the degree of freedom is smaller, the Chi-Square value will decrease.

### 1.3.2. Structural Model Evaluation Testing

#### A. Structural Model Testing

Structural model is the relationship between latent variables (variables that cannot be measured directly and require several indicators to measure them) independent and dependent (Bollen, 1989). The results of the structural test model can be seen from

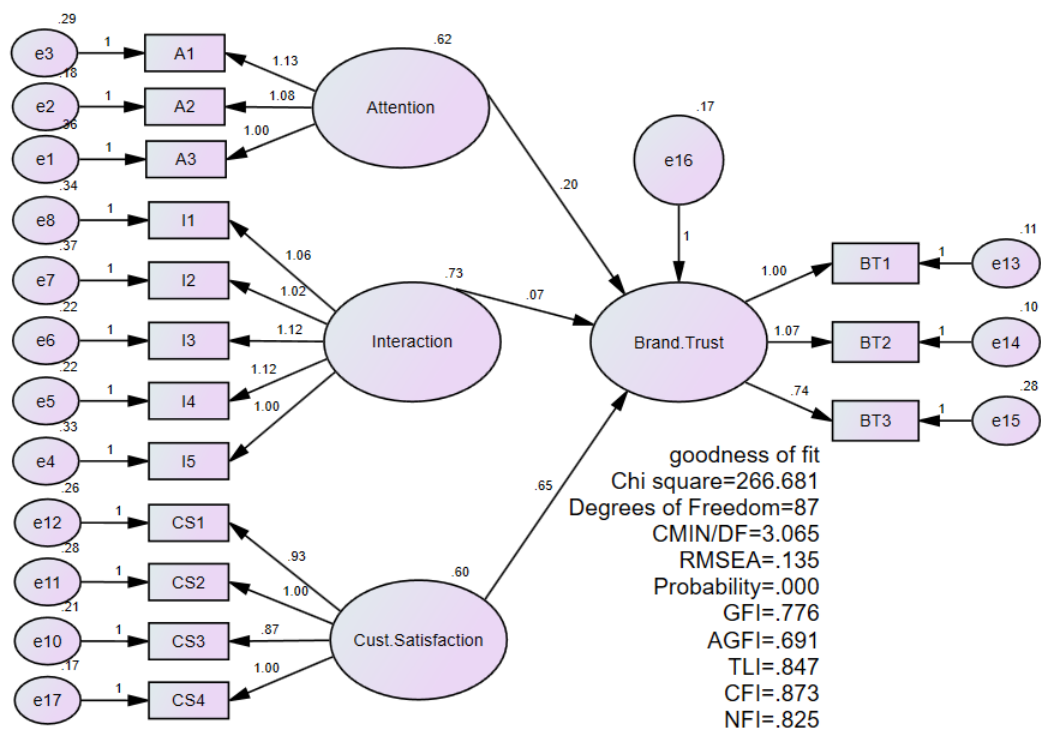


Figure 4.4 Structural Model

Figure 4.4.

Test of the model hypothesis shows that this model is in accordance with the data or fit to the data used in this study. Although the Chi-Square value is quite large at 266,681, the Chi-Square value is affected by the degree of freedom. In this study the degree of freedom is 87. If the degree of freedom is smaller, the Chi-Square value will decrease.

## B. Normality Test

Data normality evaluation was carried out using the value of critical ratio skewness value of  $\pm 2.58$  at a significance level of 0.01 (1%). Data is said to be normally distributed if the critical ratio skewness value is the interval of  $\pm 2.58$  (Ghozali, 2005). The following table 4.4. shows the normality test result.

Table 4.4 Normality Test Result

Assessment of normality (Group number 1)						
Variable	min	max	skew	c.r.	kurtosis	c.r.
CS4	1.000	5.000	-.945	-4.137	1.632	3.571
BT3	1.000	5.000	-.627	-2.747	1.048	2.294
BT2	1.000	5.000	-.622	-2.721	.415	.908
BT1	1.000	5.000	-1.002	-4.385	1.864	4.081
CS1	1.000	5.000	-1.161	-5.084	2.015	4.411
CS2	1.000	5.000	-.738	-3.231	.522	1.142
CS3	1.000	5.000	-.656	-2.873	1.174	2.570
I1	1.000	5.000	-.284	-1.242	-.536	-1.174
I2	1.000	5.000	-.456	-1.998	-.459	-1.004
I3	1.000	5.000	-.232	-1.015	-.745	-1.631
I4	1.000	5.000	-.279	-1.220	-.683	-1.496
I5	1.000	5.000	-.107	-.469	-.505	-1.106
A1	1.000	5.000	-.543	-2.376	-.260	-.568
A2	1.000	5.000	-.526	-2.302	.220	.483
A3	1.000	5.000	-.462	-2.023	-.170	-.372
Multivariate					93.807	22.273

As can be seen in the table, the results of the study obtained the value of critical ratio skewness value of all indicators showing the data is not normally distributed because there are several values that are not in the interval of  $\pm 2.58$ . This indicates that the univariate distribution of data is considered abnormal however can still be used for further estimation. Whereas, the multivariate normality test gives a critical ratio value of kurtosis 22,273 which means the data is not normally distributed. The data used in this study is data that is presented as is from research derived from polymer data based on respondents' answers that are so diverse that it is difficult to obtain data that follows perfectly normal distribution.

### C. Outlier Evaluation

Outlier evaluation is conducted in order to see the observational conditions of a data that has unique characteristics that look very different from other observations and appear in extreme forms, both for a single variable or combination variables (Hair, Multivariate Data Analysis, 1998). Outlier detection is conducted in order to see both univariate outliers and multivariate outliers. Multivariate outlier values can be seen from the value of *malahanobis* distance

Furthermore, *malahanobis* distance value is compared to the chi-square value. If there is a value of *malahanobis* distance it means there is a multivariate outlier problem (Ferdinand, 2006). Based on these provisions, in this study the chi-square value was obtained by 266,681 and the largest value at *malahanobis* distance was 57,448. Therefore, it can be concluded that in this study there were no multivariate outlier problems. In the absence of multivariate outliers, the data is suitable for use.

### D. Goodness of Fit Model Test

Analysis of the results of data processing in the full SEM model is carried out by conducting conformity tests and statistical tests. Goodness-of-fit model test results are described in Table 4.5.

Table 4.5 Goodness of Fit Structural Model

No	Index	Cut-off Value	Result	Model Evaluation
1	Chi Square	Near to 0	266,681	Poor

No	Index	Cut-off Value	Result	Model Evaluation
2	CMIN/DF	< 2 (Byrne, 1998)	3,065	Poor
3	RMSEA	< 0,08 (MacCallum, Browne, & Sugawara, 1996)	0,135	Poor
4	CFI	> 0,95 (Bentler, 1990)	0,873	Marginal
5	GFI	> 0,90 (Miles & Shevlin, 1998)	0,776	Marginal
6	AGFI	> 0,90 (Miles & Shevlin, 1998)	0,691	Marginal
7	TLI	> 0,95 (Sharma, Mukherjee, Kumar, & Dillon, 2005)	0,847	Marginal
8	Probability	$\geq 0,05$	0,000	Poor
9	NFI	$\geq 0.95$ (Hu & Bentler, 1999)	0.825	Marginal

There are four measures that can be used as a basis to indicate that a model is fit is to use the normed chi square test, CFI, GFI and RMSEA. These results indicate that the model used is acceptable. Normed Chi Square Test is the value of CMIN / DF that is equal to 3.065. The RMSEA measurement index which is in the expected range of values below 0.5 is called close fit, while the values below 0.08 are called good fit. In this model there is a RMSEA value of 0.135 which means that the value can be accepted as a close fit. Even though the GFI, CFI, AGFI, TLI and NFI value is marginally accepted. The model is said to be feasible if at least one of the model feasibility testing methods is met (Hair, 1998). Marginal value is the suitability condition of the measurement model under the criteria of absolute fit and incremental fit measures, but can still be forwarded to further analysis because it is close to the criteria of good fit (Fitriyana, 2013).



In an empirical study, a researcher is not required to fulfil all the criteria of goodness of fit, but depends on the judgment of each researcher. The Chi-Square value in this study is 266,681. Joreskog & Sorbom (1993) said that Chi-Square cannot be used as the only measure of the overall suitability of the model; one reason is because chi-square is sensitive to sample size. When the sample size increases, the chi-square value will increase and lead to rejection of the model even though the value of the difference between the sample covariance matrix and the model covariance matrix is minimal or small. Chi-square is also closely related to the degree of freedom, if the degree of freedom is greater, it will affect the Chi-Square value. The degree of freedom value in the study is quite large, namely 87, thus affecting the chi square value. Therefore, from table 4.5, it can be seen that the estimation results are within the target level of compatibility so that it can be said that the model is fit.

### **1.3.3. Modification Model**

The last stage is interpreted by the model and modifies the model that does not meet the testing requirements. After the model is estimated, the residual must be small and close to zero and the frequency distribution of the residual covariance must be symmetric. In case the amount of residuals is greater than 5% of all the covariance variables produced by the model, then a modification needs to be considered with a theoretical basis. Cut off value with a range of -2.58 to 2.58 can be used to assess the significance of the residuals generated by the model. Standardized residual covariances data are processed with the AMOS program that can be seen in table 4.6 below.

Table 4.6 Standardized Residual Covariances Structural Model

## Standardized Residual Covariances (Group number 1 - Default model)

	<b>CS4</b>	<b>BT3</b>	<b>BT2</b>	<b>BT1</b>	<b>CS1</b>	<b>CS2</b>	<b>CS3</b>	<b>I1</b>	<b>I2</b>	<b>I3</b>	<b>I4</b>	<b>I5</b>	<b>A1</b>	<b>A2</b>	<b>A3</b>
<b>CS4</b>	.000														
<b>BT3</b>	.839	.667													
<b>BT2</b>	.794	1.077	1.175												
<b>BT1</b>	.731	.880	1.298	1.138											
<b>CS1</b>	-.073	1.015	.428	.838	.000										
<b>CS2</b>	.054	.726	1.017	1.623	-.115	.000									
<b>CS3</b>	.036	.738	.746	.574	.184	-.099	.000								
<b>I1</b>	4.509	3.039	3.934	3.538	2.660	3.893	4.115	.000							
<b>I2</b>	3.778	2.748	4.582	4.322	2.701	5.169	3.532	.709	.000						
<b>I3</b>	3.109	2.600	3.381	3.132	1.451	3.634	3.983	-.081	-.617	.000					
<b>I4</b>	3.303	2.919	3.425	3.818	2.205	4.393	3.476	-.301	.412	.115	.000				
<b>I5</b>	3.080	2.048	2.871	2.794	.650	2.873	3.546	.037	-.420	.469	-.275	.000			
<b>A1</b>	2.479	2.487	2.162	2.486	2.175	4.166	3.359	5.569	6.076	5.264	5.625	3.358	.000		
<b>A2</b>	3.422	3.466	3.182	2.528	2.632	4.092	3.200	5.477	5.377	4.480	4.474	3.774	-.003	.000	
<b>A3</b>	2.811	2.752	2.595	2.366	2.138	3.532	2.958	6.702	5.919	6.510	6.434	5.747	.050	-.031	.000

Due to the outliers and standardized residual covariances values that are greater than 5% or outside the interval between -2.58 and 2.58, there is a possibility that affects the fit model of this research. The fit model test almost does not show a fit model. Therefore, it is important to note the index modification suggested by the analysis tool. The table presents the things that must be corrected, which after doing this will reduce the chi square value. The modifications are illustrated in the following Table 4.7.

Table 4.7 Modification Indices

<b>Covariances: (Group number 1 - Default model)</b>			<b>M.I.</b>	<b>Par Change</b>
Interaction	<-->	Cust. Satisfaction	17.370	.279
Attention	<-->	Cust. Satisfaction	14.888	.243
Attention	<-->	Interaction	40.978	.440
e12	<-->	Interaction	4.519	-.098
e11	<-->	Interaction	5.129	.109
e11	<-->	Attention	6.965	.120
e11	<-->	e13	4.640	.048
e8	<-->	Attention	5.022	.110
e8	<-->	e17	7.849	.081
e7	<-->	Attention	5.257	.116
e7	<-->	e11	9.094	.107
e7	<-->	e10	4.669	-.066
e7	<-->	e8	10.253	.121
e6	<-->	e10	6.815	.067
e6	<-->	e7	13.869	-.120
e5	<-->	e11	4.291	.061
e5	<-->	e7	6.147	.080
e4	<-->	e12	7.726	-.090
e4	<-->	e6	8.450	.090
e3	<-->	e14	4.117	-.051
e3	<-->	e11	4.045	.070
e3	<-->	e5	4.429	.068
e3	<-->	e4	12.402	-.131
e2	<-->	e5	4.081	-.057
e1	<-->	Interaction	16.642	.224

			<b>M.I.</b>	<b>Par Change</b>
e1	<-->	e7	4.320	-.084
e1	<-->	e4	4.128	.078

The modification of the covariance model can be carried out by providing a relation to the covariance in question. As can be seen in the Table 4.7, covariance relation relationships have an M.I. value which means that if both covariances are connected, they will decrease of the chi-square value by the value of the M.I. Thus, it is expected that if the chi-square value falls, the probability value will rise, so that it can exceed the 0.05 value. Figure 4.5 below is a path diagram model that has been

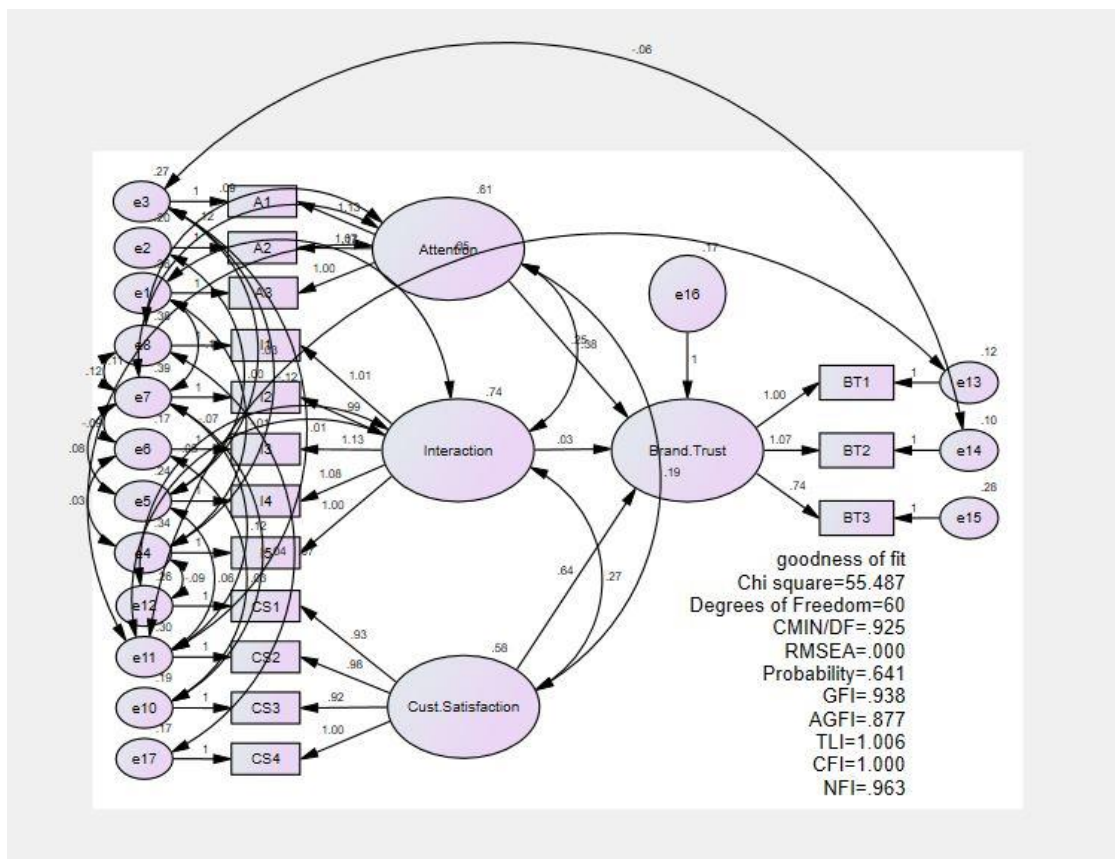


Figure 4.5 Modification Model

modified.

#### A. Goodness of Fit Modification Model Test

Analysis of the results of data processing in the full SEM model is carried out by conducting conformity tests and statistical tests. Goodness-of-fit modification model test results are described in Table 4.9.

Table 4.8 Goodness of Fit Modification Model

No	Index	Cut-off Value	Result		Modification Model Evaluation
			Before	After	
1	Chi Square	Near to 0	266,681	55.487	Poor
2	CMIN/DF	< 2 (Byrne, 1998)	3,065	0.925	Good
3	RMSEA	< 0,08 (MacCallum, Browne, & Sugawara, 1996)	0,135	0.000	Good
4	CFI	> 0,95 (Bentler, 1990)	0,873	1.000	Good
5	GFI	> 0,90 (Miles & Shevlin, 1998)	0,776	0.938	Good
6	AGFI	> 0,90 (Miles & Shevlin, 1998)	0,691	0.877	Marginal
7	TLI	> 0,95 (Sharma, Mukherjee, Kumar, & Dillon, 2005)	0,847	1.006	Good
8	Probability	$\geq 0,05$	0,000	0.641	Good
9	NFI	$\geq 0.95$ (Hu & Bentler, 1999)	0.825	0.963	Good

These results indicate that the model used is acceptable. CMIN / DF value of 0.925 shows a good structural equation model. The RSMEA measurement index is in

the expected range of  $\leq 0.08$ , which is 0,000. Likewise, the values of GFI, AGFI, TLI, CFI and NLI are in accordance with the specified cut-off value limit.

## B. Validity and Reliability Testing

There is a mandatory requirement that is fulfilled to find out whether an indicator is valid or not. The requirement is that the loading factor is required to be significant and the standardized loading estimate is mandatory  $\geq 0.50$ . Likewise, in order to know the construct reliability there are two methods that can be used. These methods namely construct reliability and variance extracted. The cut-off value of construct reliability is  $\geq 0.70$  and the cut-off value of variance extracted is  $\geq 0.50$ . Table 4.9 below shows the reliability and variance extracted of the modification model.

Table 4.8 Reliability and Variance Extracted Modification Model

No	Variable	Indicator	Standard Loading	Standard Loading <sup>2</sup>	Measurement Error	Construct Reliability	Variance Extracted
1	Attention	A1	0.86	0.73	0.27	0.88	0.71
		A2	0.88	0.78	0.22		
		A3	0.79	0.63	0.37		
		$\Sigma$	2.53	2.14	0.86		
		$\Sigma^2$	6.40	4.56	0.75		
	Interaction	I1	0.82	0.67	0.33	0.93	0.73
		I2	0.81	0.65	0.35		
		I3	0.92	0.84	0.16		
		I4	0.88	0.78	0.22		
		I5	0.83	0.69	0.31		
3	Customer Satisfaction	$\Sigma$	4.25	3.63	1.37	0.90	0.70
		$\Sigma^2$	18.08	13.14	1.89		
		CS1	0.81	0.66	0.34		
		CS2	0.81	0.65	0.35		

No	Variable	Indicator	Standard Loading	Standard Loading <sup>2</sup>	Measurement Error	Construct Reliability	Variance Extracted
		CS3	0.85	0.72	0.28		
		CS4	0.88	0.77	0.23		
		$\Sigma$	3.34	2.80	1.20		
		$\Sigma^2$	11.18	7.83	1.44		
		BT1	0.91	0.82	0.18		
		BT2	0.93	0.86	0.14		
4	Brand Trust	BT3	0.71	0.50	0.50	0.89	0.73
		$\Sigma$	2.55	2.19	0.81		
		$\Sigma^2$	6.48	4.79	0.66		

According to the results of the standardized loading estimate output contained in the table, the loading value of the entire indicator has fulfilled the requirements of  $\geq 0.50$ , so that it can be concluded that the exogenous construct constructor used is valid. It can also be identified if the value of construct reliability is  $> 0.70$ , which means that reliable instruments and variance extracted values have exceeded the requirements of  $\geq 0.50$ , which means that if the indicator used is observed above, it can relatively explain the exogenous variables in their form.

### C. Hypothesis Test

The next stage after the criteria of the goodness of fit structural model is estimated to be fulfilled is an analysis of the structural relationship model (hypothesis testing). The relationship between constructs in hypotheses is indicated by regression weights values (Hair, 1998). The Critical Ratio value needed to see the significance between

endogenous and exogenous variables is above 1.96 and has a probability above 5%. The following table shows the relationship of significance between variables to analyse clearly about the effect of Attention, Interaction and Customer Satisfaction on Brand trusts on Starbucks Coffee customers.

**Regression Weights: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
Brand.Trust <--- Attention	.249	.086	2.885	.004	par_12
Brand.Trust <--- Interaction	.031	.078	.402	.687	par_13
Brand.Trust <--- Cust.Satisfaction	.639	.083	7.687	***	par_14

Figure 4.6 Hypothesis Test Result

- 1) Based on the results of the study note that the influence of attention to brand trust is CR value of 2,885 ( $p = 0.004 < 0.05$ ), then  $H_0$  is rejected and  $H_1$  is accepted, meaning that there is a positive influence between attention with brand trust.  $H_1$  hypothesis, there is an influence of attention to brand trust received.
- 2) Based on the results of the study, it is noted that the effect of interaction on brand trust there is a CR value of 0.402 ( $p = 0.687 > 0.05$ ) then  $H_0$  is accepted and  $H_1$  is rejected, meaning that there is no significant value between interaction with brand trust.  $H_2$  hypothesis which states that there is influence of interaction on brand trust is rejected.
- 3) Based on the results of the study, it is noted that the effect of customer satisfaction on brand trust there is a CR value of 7.687 ( $p = 0.001 < 0.05$ )



then  $H_0$  is rejected and  $H_1$  is accepted, meaning that there is a positive influence between customer satisfaction with brand trust. H3 hypothesis, resumed that there is an effect of customer satisfaction on brand trust received.