4. FINDINGS AND DISCUSSION

4.1. Findings

This section will elaborate the results of this research covering the respondents' profile, validity and reliability test, the Model Specification, Outer Model Evaluation, Inner Model Evaluation, and Mediation Analysis.

4.1.1. Respondents Profile

The explanation for respondents' profile is divided into five, which are (1) gender, (2) age, (3) occupation, (4) domicile, and (5) shopping frequency. The researchers obtained 206 respondents where 180 respondents are valid and 26 are not valid because they have not shopped online in Shopee in the last 3 months. Hence, this research is comprised of 180 respondents. The number of respondents in this research has surpassed the minimum number respondents required according to the 10 times rule stated by Hair et al. (2017), which is 40 respondents.

4.1.1.1. Gender

In Figure 4.1 below, it can be seen that from a total of 180 valid respondents, 115 are female (63.89%) and 65 are male (36.11%).

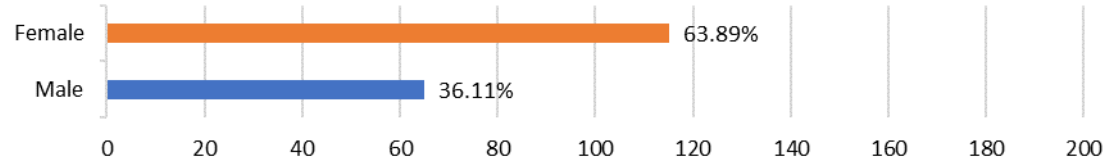

Figure 4.1 Respondents' Gender

4.1.1.2. Occupation

Figure 4.2 shows that 85 respondents are university students (47.22%), 32 respondents are entrepreneurs (17.78%), 29 respondents are employees (16.11%), 21 respondents are stay-at-home moms (11.67%), 7 respondents are not working (3.89%), and the remaining 6 respondents have occupations other than mentioned (3.33%). Other occupations include priest, university lecturer, and daily trader.

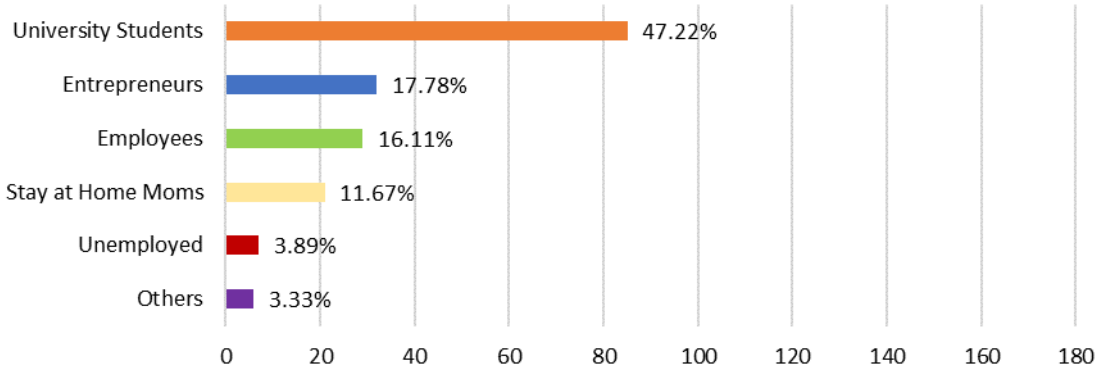

Figure 4.2 Respondents' Occupation

4.1.1.3. Domicile

From 180 valid respondents, 83 respondents live in Surabaya (46.11%), 49 respondents live in Jabodetabek (27.22%), 21 respondents live in Bandung (11.67%), and the remaining 27 respondents live in other cities across Indonesia (15%). The other cities are Malang, Situbondo, Jember, Blitar, Bali, Yogyakarta, Surakarta, Cianjur, Kudus, Medan, Jepara, Makassar, and Manado. Figure 4.3 below illustrates the respondents' domicile distribution.

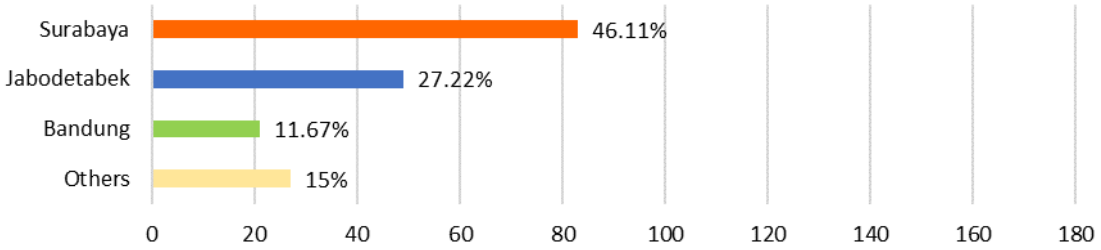

Figure 4.3 Respondents' Domicile

4.1.1.4. Age

Figure 4.4 shows the age group of the respondents. 102 respondents are between 17-24 years old (56.67%), 33 respondents are between 25-32 years old (18.33%), 20 respondents are between 33-45 years old (11.11%), and 25 respondents are older than 45 years old (13.89 %).

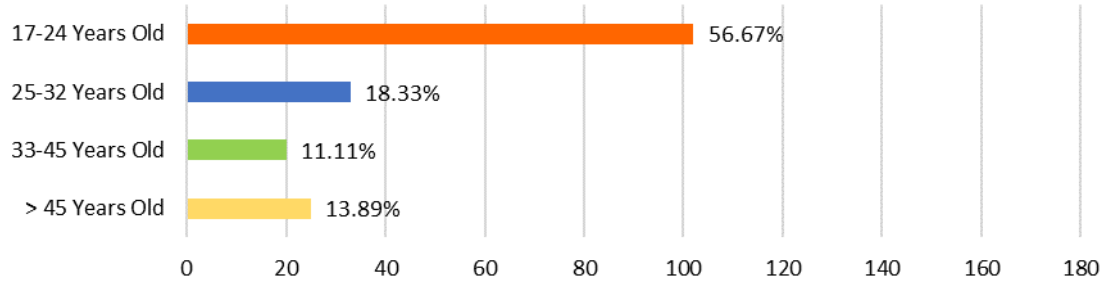

Figure 4.4 Respondents' Age

4.1.1.5. Shopping Frequency

Figure 4.5 below shows the respondents' shopping frequency on Shopee within a time span of 3 months. 92 respondents (51.11%) have shopped more than 4 times, 17 respondents (9.44%) shopped for four times, 26 respondents (14.44%) shopped for three times, 25 respondents (13.89%) shopped for two times, and 20 respondents shopped for one time (11.11%).

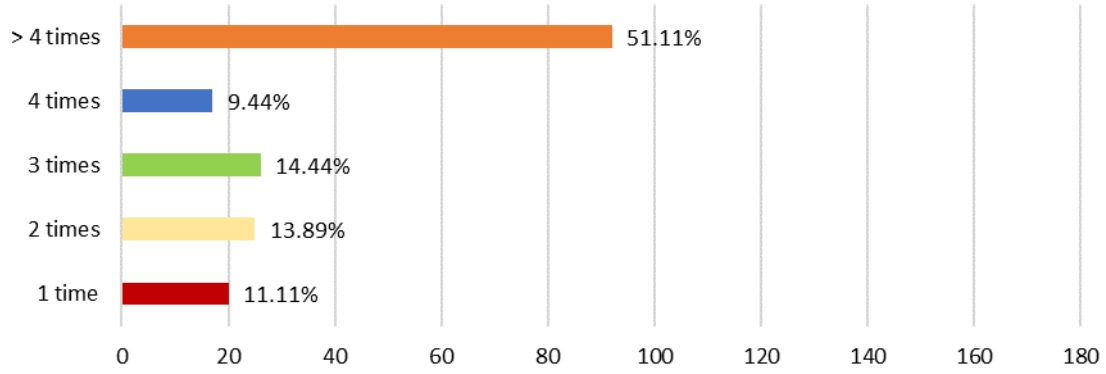

Figure 4.5 Respondents' Shopping Frequency on Shopee

4.1.2. Validity and Reliability Test

After breaking down the respondents' profile, the researchers will discuss the results of each variables' validity and reliability test. The validity test consists of the convergent validity and discriminant validity. The reliability test consists of the internal consistency reliability (Hair et al., 2014; Hair et al., 2017). The researchers will be writing down the variables using abbreviations, as written in Table 4.1.

Table 4.1

Variable Abbreviation

Variable	Abbreviation
Hedonic Shopping Value	HSV
Utilitarian Shopping Value	USV
Website Stimulus	WEB
Marketing Stimulus	MA
Pleasure	P
Arousal	A
Online Impulse Buying Behavior	OIBB

4.1.2.1. Convergent Validity

In this part, the researchers will assess the convergent validity with two requirements for an indicator to be considered valid. First, each indicator must have an outer loading of > 0.7. Second, each variable should have an AVE of > 0.5. However, as mentioned in Chapter 3, an outer loading < 0.7 is still acceptable if its AVE value is already > 0.5 (Hair et al., 2017). Table 4.2 below shows the outer loadings and AVE values for all indicators.

Table 4.2

Outer Loadings and AVE

	Outer Loadings	Criteria	Result	AVE	Criteria	Result
HSV				0.586	> 0.5	Valid
HSV1	0.82	> 0.7	Valid			
HSV2	0.86	> 0.7	Valid			
HSV3	0.703	> 0.7	Valid			
HSV4	0.71	> 0.7	Valid			
HSV5	0.721	> 0.7	Valid			
USV				0.689	> 0.5	Valid
USV1	0.727	> 0.7	Valid			
USV2	0.871	> 0.7	Valid			
USV3	0.884	> 0.7	Valid			

Table 4.2

Outer Loadings and AVE (continued)

WEB				0.528	> 0.5	Valid
WEB1	0.635	> 0.7	Valid			
WEB2	0.657	> 0.7	Valid			
WEB3	0.796	> 0.7	Valid			
WEB4	0.727	> 0.7	Valid			
WEB5	0.768	> 0.7	Valid			
WEB6	0.743	> 0.7	Valid			
WEB7	0.813	> 0.7	Valid			
WEB8	0.762	> 0.7	Valid			
WEB9	0.701	> 0.7	Valid			
WEB10	0.640	> 0.7	Valid			
MA				0.540	> 0.5	Valid
MA1	0.788	> 0.7	Valid			
MA2	0.762	> 0.7	Valid			
MA3	0.759	> 0.7	Valid			
MA4	0.760	> 0.7	Valid			
MA5	0.707	> 0.7	Valid			
MA6	0.773	> 0.7	Valid			
MA7	0.710	> 0.7	Valid			
MA8	0.684	> 0.7	Valid			
MA9	0.723	> 0.7	Valid			
MA10	0.748	> 0.7	Valid			
MA11	0.706	> 0.7	Valid			
MA12	0.684	> 0.7	Valid			
P				0.838	> 0.5	Valid
P1	0.927	> 0.7	Valid			
P2	0.912	> 0.7	Valid			
P3	0.908	> 0.7	Valid			
A				0.835	> 0.5	Valid
A1	0.905	> 0.7	Valid			

Table 4.2

Outer Loadings and AVE (continued)

A2	0.939	> 0.7	Valid			
A3	0.897	> 0.7	Valid			
OIBB				0.801	> 0.5	Valid
OIBB1	0.868	> 0.7	Valid			
OIBB2	0.887	> 0.7	Valid			
OIBB3	0.925	> 0.7	Valid			
OIBB4	0.899	> 0.7	Valid			

Table 4.2 above shows that the outer loadings for indicator WEB1, WEB2, WEB10, MA8, and MA12 are below 0.7. However, the AVE value for website stimulus and marketing stimulus is 0.528 and 0.540, thus fulfilling the AVE criteria. Therefore, indicators WEB1, WEB2, WEB10, MA8, and MA12 are still valid. Meanwhile, all other indicators have an outer loading above 0.7 and all of the variables have an AVE value of above 0.5. Hence, all indicators fulfills the requirements to pass the convergent validity test.

4.1.2.2. Discriminant Validity

Here, the researchers will assess the two requirements of discriminant validity. First, the cross loadings of each indicator must be higher than other variables' cross loadings. Second, Fornell-Larcker criterion, requiring the square root of a variable's AVE to be higher than the variables' correlations with any other variables (Hair et al., 2017).

Therefore, the researchers' first step is to check the cross loadings. Simply put, the cell highlighted in yellow in Table 4.3 below has to have the highest value compared to other cells in the same row.

Table 4.3

Cross Loadings

	HSV	**USV**	**WEB**	**MA**	**P**	**A**	**OIBB**	**Highest Value**	**Result**
HSV1	0.820	0.394	0.481	0.568	0.539	0.577	0.455	0.820	Valid
HSV2	0.860	0.343	0.484	0.573	0.562	0.647	0.563	0.860	Valid
HSV3	0.703	0.336	0.402	0.505	0.467	0.472	0.446	0.703	Valid

Table 4.3

Cross Loadings (continued)

HSV4	0.710	0.248	0.351	0.465	0.378	0.507	0.387	0.710	Valid
HSV5	0.721	0.292	0.482	0.459	0.487	0.467	0.317	0.721	Valid
USV1	0.236	0.727	0.335	0.248	0.238	0.271	0.026	0.727	Valid
USV2	0.404	0.871	0.408	0.382	0.339	0.445	0.146	0.871	Valid
USV3	0.387	0.884	0.438	0.414	0.351	0.396	0.167	0.884	Valid
WEB1	0.283	0.242	0.635	0.313	0.466	0.368	0.287	0.635	Valid
WEB2	0.312	0.275	0.657	0.321	0.433	0.342	0.324	0.657	Valid
WEB3	0.488	0.455	0.796	0.521	0.530	0.516	0.357	0.796	Valid
WEB4	0.444	0.322	0.727	0.440	0.518	0.497	0.247	0.727	Valid
WEB5	0.432	0.316	0.768	0.444	0.497	0.483	0.320	0.768	Valid
WEB6	0.482	0.333	0.743	0.525	0.483	0.486	0.393	0.743	Valid
WEB7	0.436	0.464	0.813	0.514	0.545	0.494	0.447	0.813	Valid
WEB8	0.463	0.355	0.762	0.500	0.542	0.492	0.467	0.762	Valid
WEB9	0.369	0.306	0.701	0.401	0.453	0.322	0.402	0.701	Valid
WEB10	0.439	0.360	0.640	0.474	0.476	0.446	0.448	0.640	Valid
MA1	0.510	0.283	0.539	0.788	0.537	0.511	0.370	0.788	Valid
MA2	0.422	0.317	0.498	0.762	0.507	0.518	0.355	0.762	Valid
MA3	0.428	0.349	0.518	0.759	0.488	0.511	0.395	0.759	Valid
MA4	0.464	0.427	0.548	0.760	0.487	0.529	0.326	0.76	Valid
MA5	0.476	0.296	0.477	0.707	0.486	0.545	0.393	0.707	Valid
MA6	0.524	0.418	0.470	0.773	0.503	0.542	0.373	0.773	Valid
MA7	0.566	0.345	0.416	0.710	0.454	0.548	0.482	0.71	Valid
MA8	0.500	0.202	0.406	0.684	0.461	0.532	0.347	0.684	Valid
MA9	0.508	0.316	0.379	0.723	0.494	0.512	0.341	0.723	Valid
MA10	0.535	0.244	0.362	0.748	0.470	0.529	0.381	0.748	Valid
MA11	0.477	0.274	0.436	0.706	0.457	0.548	0.442	0.706	Valid
MA12	0.523	0.303	0.404	0.684	0.468	0.559	0.449	0.684	Valid
P1	0.626	0.348	0.646	0.613	0.927	0.738	0.564	0.927	Valid
P2	0.526	0.361	0.626	0.587	0.912	0.633	0.473	0.912	Valid
P3	0.602	0.333	0.603	0.613	0.908	0.737	0.508	0.908	Valid
A1	0.607	0.469	0.561	0.653	0.638	0.905	0.446	0.905	Valid
A2	0.663	0.412	0.562	0.659	0.721	0.939	0.524	0.939	Valid
A3	0.654	0.376	0.574	0.674	0.743	0.897	0.587	0.897	Valid

Table 4.3

Cross Loadings (continued)

OIBB1	0.450	0.061	0.488	0.416	0.475	0.463	0.868	0.868	Valid
OIBB2	0.489	0.214	0.428	0.423	0.491	0.495	0.887	0.887	Valid
OIBB3	0.507	0.091	0.418	0.446	0.524	0.474	0.925	0.925	Valid
OIBB4	0.591	0.156	0.484	0.588	0.525	0.598	0.899	0.899	Valid

From Table 4.3 above, it can be said that the highlighted cell in yellow all fulfills the criteria, which means that the cross loadings of each indicator on the variable is higher than cross loadings on all other variables. Therefore, the first requirement for discriminant validity is passed.

Second step is evaluating the Fornell-Larcker criterion. Table 4.4 below shows the correlation between variables and square root AVE. Table 4.4 shows that all square root AVE of the variables are the highest in the row, meaning all variables fulfill the second requirement for the discriminant validity. Hence, all indicators fulfill the criteria to pass the discriminant validity test.

Table 4.4

Fornell-Larcker Criterion

	HSV	**USV**	**WEB**	**MA**	**P**	**A**	**OIBB**	**AVE**	**Square Root AVE**	**Highest Value**	**Result**
HSV		0.424	0.577	0.674	0.640	0.703	0.573	0.586	0.766	0.766	Valid
USV	0.424		0.477	0.429	0.379	0.457	0.147	0.689	0.830	0.830	Valid
WEB	0.577	0.477		0.620	0.683	0.619	0.508	0.528	0.727	0.727	Valid
MA	0.674	0.429	0.620		0.660	0.725	0.528	0.540	0.735	0.735	Valid
P	0.640	0.379	0.683	0.660		0.769	0.564	0.838	0.916	0.916	Valid
A	0.703	0.457	0.619	0.725	0.769		0.571	0.835	0.914	0.914	Valid
OIBB	0.573	0.147	0.508	0.528	0.564	0.571		0.801	0.895	0.895	Valid

4.1.2.3. Internal Consistency Reliability

This section will discuss the reliability of the indicators. To be considered reliable, each variable must have a Cronbach's alpha > 0.7 and composite reliability > 0.7 (Hair et al., 2017). Table 4.5 below shows the result of the reliability test.

Table 4.5

Cronbach's Alpha and Composite Reliability

Variable	Cronbach's Alpha	Criteria	Result	Composite Reliability	Criteria	Result
HSV	0.822	> 0.7	Reliable	0.876	> 0.7	Reliable
USV	0.776	> 0.7	Reliable	0.868	> 0.7	Reliable
WEB	0.900	> 0.7	Reliable	0.917	> 0.7	Reliable
MA	0.922	> 0.7	Reliable	0.933	> 0.7	Reliable
P	0.904	> 0.7	Reliable	0.940	> 0.7	Reliable
A	0.901	> 0.7	Reliable	0.938	> 0.7	Reliable
OIBB	0.917	> 0.7	Reliable	0.941	> 0.7	Reliable

From Table 4.5 above, all variables fulfill the criteria for Cronbach's alpha and composite reliability. Therefore, all of this research's indicators are reliable.

4.1.2.4. Conclusion of Validity and Reliability Tests

The previous three sections have assessed the result of validity and reliability tests. All variables and indicators have fulfilled the criteria for convergent and discrminant validity test and internal consistency reliability. Therefore, all of the indicators and variables are valid and reliable.

4.1.3. Model Specification

As the researchers have ensured the validity and reliability of all indicators used, this section will now elaborate this research' path model, as using the SmartPLS software requires several adjustments in the naming of variables and model analysis. The researchers specified two outer models and one inner model that makes up this research's path model. Figure 4.6 below further elaborates the path model of this research.

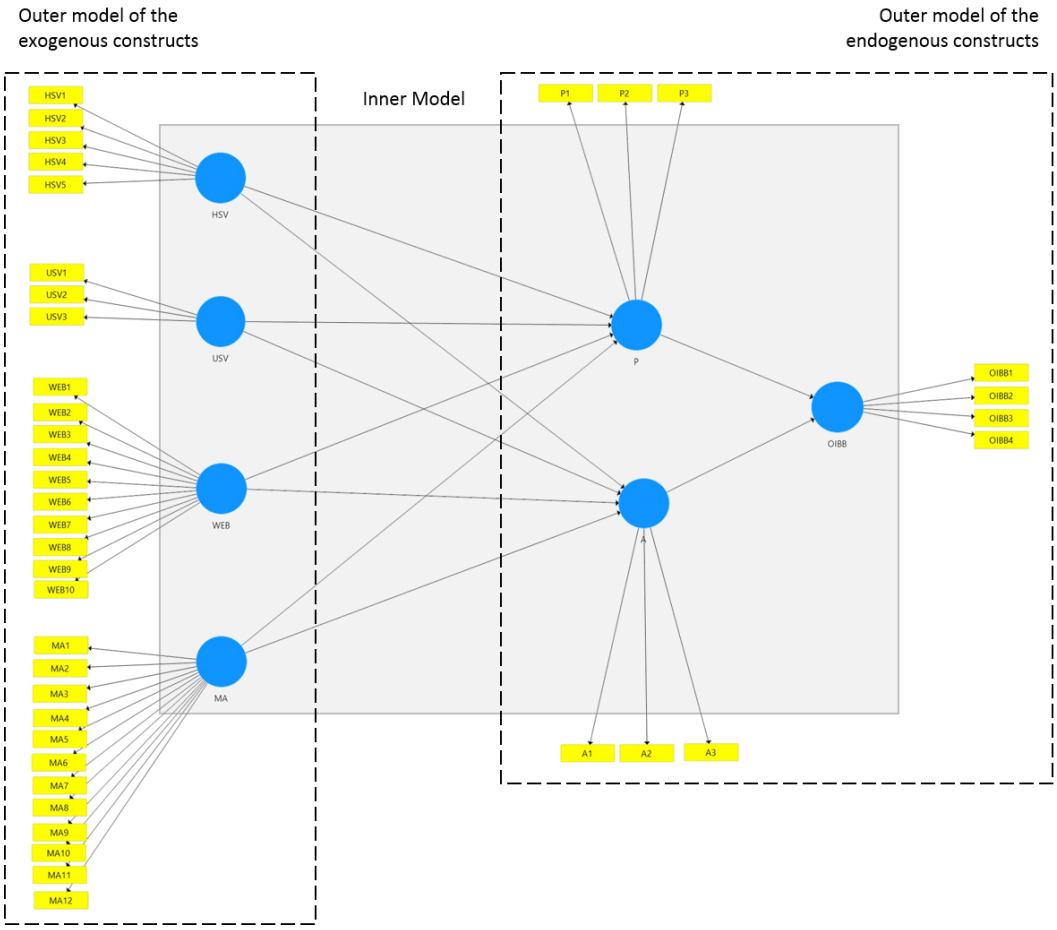

Figure 4.6 Path Model of This Research

The yellow boxes represent the variables' indicators or measurement items, whereas the blue circles represent the exogenous (independent) and endogenous (mediating and dependent) variables. The exogenous (independent) variables are HSV, USV, WEB, and MA. The endogenous for mediating variables are P and A. Lastly, the endogenous (dependent) variable is OIBB.

4.1.4. Outer Model Evaluation

Here, the researchers will analyze the results of the outer model evaluation. Since this study uses reflective indicators, the outer models will be evaluated using the validity and reliability tests, as dicussed in section 4.1.2. The results showed that all indicators or measurement items for all seven variables are both valid and reliable. This means that this research's variables are already accurately measured and represented, and are appropriate for PLS-SEM analyses.

4.1.5. Inner Model Evaluation

After confirming the validity and reliability of the variables' measures, the researchers will conduct the inner model evaluation. The inner models will be assessed using six criteria, explained in the following order: Collinearity, Path Coefficients, Coefficient of Determination (R^2), Effect Size (f^2), Cross-validated Redundancy (Q^2), and the Effect Size (q^2).

4.1.5.1. Collinearity

In this section, the researchers will ensure that the variables of this research are not highly correlated. The requirement to rule out collinearity between two variables is a VIF value of < 5 (Hair et al., 2017). Based on Table 4.6, all of the variables passed the collinearity test for none of the VIF values are equal to 5 or above 5.

Table 4.6

Collinearity Diagnostic Table

Variable	VIF
HSV & P	2.015
HSV & A	2.015
USV & P	1.368
USV & A	1.368
WEB & P	1.881
WEB & A	1.881
MA & P	2.169
MA & A	2.169
P & OIBB	2.449
A & OIBB	2.449

4.1.5.2. Path Coefficients

In this part, the researchers will first determine whether the hypothesized relationships connecting the exogenous (independent) variables with the endogenous (mediating) variables have negative or positive values through path coefficient values. The path coefficients are represented with values ranging from -1 (strong negative relationship) to +1 (strong positive relationship) (Hair et al., 2017).

Next, the researchers will conduct a Bootstrapping test to determine whether the exogenous (independent) variables significantly impact the endogenous (mediating) variables. The significance of the hypothesized relationships is determined by the empirical *t value* and *p value* of each hypothesized relationship. This research uses a two-tailed test with a significance level of 5%, indicating a critical *t*-value of 1.96 and a *p*-value of 0.05 (Hair et al., 2017). Table 4.7 below shows the hypotheses and decision rule.

Table 4.7

Bootstrapping Test Hypotheses and Decision Rule

Hypotheses	H_0: There is no significant effect on the relationship between the exogenous and endogenous (mediating) variables. H_1: There is a significant effect on the relationship between the exogenous and endogenous (mediating) variables.
Decision Rule	If *t value* < 1.96 and *p value* > 0.05, then fail to reject H_0. If *t value* > 1.96 and *p value* < 0.05, then reject H_0.

Table 4.8 below shows the path coefficient values on each exogenous (independent) variable with the endogenous (mediating) variable. The results show that almost all of the hypothesized relationships have a positive relationship, except for the path coefficient from utilitarian shopping value to pleasure, with a value of -0.024.

Table 4.8

Path Coefficients Value

Variable	Path Coefficient
HSV → P	0.250
HSV → A	0.324
USV → P	-0.024
USV → A	0.083
WEB → P	0.388
WEB → A	0.164
MA → P	0.262
MA → A	0.369

Table 4.8

Path Coefficients Value (continued)

P → OIBB	0.305
A → OIBB	0.336

Following the path coefficient values is Table 4.9 below, showing the results of the bootstrapping test. Both the hypothesized relationship for utilitarian shopping value has a *t value* of less than 1.96 and *p value* of more than 0.05. Following the decision rule on Table 4.7, the null hypothesis for utilitarian shopping value fails to be rejected. This means that utilitarian shopping value has no significant impact towards pleasure and arousal. Meanwhile, the hypothesized relationship for hedonic shopping value, website stimulus, and marketing stimulus has a *t value* of more than 1.96 and *p value* of less than 0.05. This means that the null hypothesis for hedonic shopping value, website stimulus, and marketing stimulus is rejected. Therefore, that hedonic shopping value, website stimulus, and marketing stimulus has a significant impact on pleasure and arousal.

Table 4.9

Bootstrapping Results

Variable	***t value***	***p value***	**Significance**
HSV → P	3.560	0.000	Significant
HSV → A	4.120	0.000	Significant
USV → P	0.420	0.674	Not significant
USV → A	1.182	0.238	Not significant
WEB → P	5.863	0.000	Significant
WEB → A	2.088	0.037	Significant
MA → P	3.852	0.000	Significant
MA → A	3.840	0.000	Significant
P → OIBB	3.077	0.002	Significant
A → OIBB	3.730	0.000	Significant

Table 4.10

Hypotheses for the relationship between Exogenous and Endogenous Variables

Variable	Hypotheses
Hedonic Shopping Value	H_0: Hedonic Shopping Value does not significantly affect consumers' Pleasure. H_1: Hedonic Shopping Value significantly affect consumers' Pleasure.
	H_0: Hedonic Shopping Value does not significantly affect consumers' Arousal. H_1: Hedonic Shopping Value significantly affect consumers' Arousal.
Utilitarian Shopping Value	H_0: Utilitarian Shopping Value does not significantly affect consumers' Pleasure. H_1: Utilitarian Shopping Value significantly affect consumers' Pleasure.
	H_0: Utilitarian Shopping Value does not significantly affect consumers' Arousal. H_1: Utilitarian Shopping Value significantly affect consumers' Arousal.
Website Stimulus	H_0: Website Stimulus does not significantly affect consumers' Pleasure. H_1: Website Stimulus significantly affect consumers' Pleasure.
	H_0: Website Stimulus does not significantly affect consumers' Arousal. H_1: Website Stimulus significantly affect consumers' Arousal.
Marketing Stimulus	H_0: Marketing Stimulus does not significantly affect consumers' Pleasure. H_1: Marketing Stimulus significantly affect consumers' Pleasure.
	H_0: Marketing Stimulus does not significantly affect consumers' Arousal. H_1: Marketing Stimulus significantly affect consumers' Arousal.

4.1.5.3. Coefficient of Determination (R^2)

This section will analyze the coefficient of determination (R^2) to know the predictive accuracy in the combined effect of exogenous (independent) variables on the endogenous (mediating) variable and the endogenous (mediating) variable on the dependent variable. Predictive accuracy levels are 0.75 (substantial), 0.50 (moderate), 0.25 (weak) (Hair et al., 2017). Table 4.11 below shows the values and predictive accuracy level.

Table 4.11

Coefficient of Determination Values

Variable	Coefficient of Determination (R^2)	Level of Predictive Accuracy
P	0.589	Moderate
A	0.635	Moderate
OIBB	0.364	Weak

From Table 4.11 above, it can be seen that the R^2 for A (Arousal) and P (Pleasure) each falls in the category of moderate with the value of 0.635 and 0.589 respectively. As for OIBB (Online Impulse Buying Behavior), the R^2 shows a value of 0.364, meaning that it falls in the category of weak.

4.1.5.4. Effect Size (f^2)

Here, the researchers will assess the f^2 values to determine an exogenous variable's contribution towards an endogenous variable's R^2 value. Values of 0.02 indicates a small effect, 0.15 indicates a medium effect, and 0.35 indicates a large effect from the exogenous towards the endogenous variable. No effect is indicated by values less than 0.02 (Hair et al., 2017).

The effect size f^2 values and its ratings are presented in Table 4.12 below. Most f^2 value indicate a value bigger than 0.02, suggesting presence of an effect. However, utilitarian shopping value's f^2 is 0.001 towards pleasure and 0.014 towards arousal, meaning that utilitarian shopping value has no effect towards pleasure and arousal.

Table 4.12

Effect Size (f^2) Values

Variables	Effect Size (f^2)	Rating
HSV → P	0.076	Small effect
HSV → A	0.143	Small effect
USV → P	0.001	No effect
USV → A	0.014	No effect
WEB → P	0.194	Medium effect
WEB → A	0.039	Small effect
MA → P	0.077	Small effect
MA → A	0.172	Medium effect
P → OIBB	0.060	Small effect
A → OIBB	0.073	Small effect

4.1.5.5. Cross-validated Redundancy (Q^2)

This section finds out the predictive relevance of the model through a Blindfolding procedure. Values of 0 and below indicates lack of predictive relevance. Values above 0 means the exogenous variables have a predictive relevance for a certain endogenous variable (Hair et

al., 2017). Table 4.13 below shows the findings, where all Q^2 values are above 0, indicating that this research's path model has predictive relevance.

Table 4.13

Cross-validated Redundancy (Q^2) Values

Variable	SSO	SSE	Q^2 (=1-SSE/SSO)
HSV	900.000	900.000	
USV	540.000	540.000	
WEB	1800.000	1800.000	
MA	2160.000	2160.000	
P	540.000	279.019	0.483
A	540.000	260.509	0.518
OIBB	720.000	513.920	0.286

4.1.5.6. Effect Size (q^2)

In this section, the researchers will use the q^2 effect size to compare the relative impact of predictive relevance. A q^2 value indicates an exogenous variable's predictive relevance towards a certain endogenous variable. Values of 0.02 indicates a small effect, 0.15 indicates a medium effect, and 0.35 indicates a large effect (Hair et al., 2017). Table 4.14. below shows the effect size q^2 values and its rating.

Table 4.14

Effect Size (q^2) Values

Variable / Relationship Excluded	Effect Size (q^2)	Rating
HSV → P	$q^2_{HSV \rightarrow P}$= (0.483 - 0.460) / 1 - 0.483 = 0.044	Small effect
HSV → A	$q^2_{HSV \rightarrow A}$= (0.518 - 0.475) /1 - 0.518 = 0.089	Small effect
USV → P	$q^2_{USV \rightarrow P}$= (0.483 - 0.484) / 1 - 0.483 = -0.002	No effect
USV → A	$q^2_{USV \rightarrow A}$=(0.518 - 0.518) /1 - 0.518 = 0.000	No effect
WEB → P	$q^2_{WEB \rightarrow P}$= (0.483 - 0.418) / 1 - 0.483 = 0.126	Small effect
WEB → A	$q^2_{WEB \rightarrow A}$= (0.518 - 0.506) /1 - 0.518 = 0.025	Small effect
MA → P	$q^2_{MA \rightarrow P}$= (0.483 - 0.458) / 1 - 0.483 = 0.048	Small effect

Table 4.14

Effect Size (q^2) Values (continued)

MA → A	$q^2_{MA \rightarrow A}$= (0.518 - 0.466) /1 - 0.518 = 0.108	Small effect
P → OIBB	$q^2_{P \rightarrow OIBB}$= (0.286 – 0.256) / 1 - 0.286 = 0.042	Small effect
A → OIBB	$q^2_{A \rightarrow OIBB}$= (0.286 – 0.250) / 1 - 0.286 = 0.050	Small effect

From Table 4.14 above, it shows that only utilitarian shopping value has no predictive relevance towards pleasure and arousal. Meanwhile, hedonic shopping value, website stimulus, and marketing stimulus all have a small predictive relevance towards pleasure and arousal, as its q^2 values are above 0.02. As for pleasure and arousal, its q^2 values also pass the threshold for small effect, indicating a small predictive relevance towards online impulse buying behavior.

4.1.6. Mediation Analysis

Following the inner model evaluation, the researchers will continue with the mediation analysis. The researchers will first deduce whether the hypothesized mediation relationships are positive or negative by looking at the specific indirect effects. Then, the researchers will conduct a bootstrapping test to obtain the empirical *t value* and *p value* of the hypothesized mediation relationships to evaluate each of the relationship's significance. This research uses a two-tailed test with a significance level of 5%, with critical *t*-value of 1.96 and a *p*-value of 0.05 (Hair et al., 2017). The hypotheses and decision rule for the mediation analyses are stated in Table 4.15.

Table 4.15

Bootstrapping Test Hypotheses and Decision Rule for Mediation Analysis

Hypotheses	H_0: There is no significant mediation effect on the relationship between the exogenous and endogenous (dependent) variables. H_1: There is a significant mediation effect on the relationship between the exogenous and endogenous (dependent) variables.
Decision Rule	If *t value* < 1.96 and *p value* > 0.05, then fail to reject H_0. If *t value* > 1.96 and *p value* < 0.05, then reject H_0.

Based on Table 4.16 on the following page, all specific indirect effects are positive, except for the specific indirect effect between utilitarian shopping value, pleasure, and online impulse buying behavior with a value of -0.005. This implies that seven out of eight hypothesized relationships for mediation in this research are positive.

Table 4.16

Specific Indirect Effect Values

Variable	Specific Indirect Effect
HSV → P → OIBB	0.076
HSV → A → OIBB	0.109
USV → P → OIBB	-0.007
USV → A → OIBB	0.028
WEB → P → OIBB	0.118
WEB → A → OIBB	0.055
MA → P → OIBB	0.080
MA → A → OIBB	0.124

Meanwhile, the significance for hypothesized relationships for mediation can be seen from Table 4.17 for bootstrapping results on the following page. The results shows that there are three hypothesized relationships that do not meet the criteria for significance, which is a *t value* of > 1.96 and *p value* of < 0.05. The first hypothesized relationship is the relationship between utilitarian shopping value, pleasure, and online impulse buying behavior, with a *t value* and *p value* of 0.400 and 0.689. The second hypothesized relationship is the relationship between utilitarian shopping value, arousal, and online impulse buying behavior, with a *t value* and *p value* of 1.137 and 0.256. This means that utilitarian shopping value fails to reject the null hypothesis for both mediation by pleasure and arousal. The third hypothesized relationship is the relationship between website stimulus, arousal, and online impulse buying behavior, with a *t value* and *p value* of 1.683 and 0.093. Therefore, website stimulus fails to reject the null hypothesis for mediation by arousal. Moreover, it can also be seen from Table 4.17 that the rest of the relationships have *t values* above 1.96 and *p values* below 0.05. This means the rest of the hypothesized relationships for mediation are significant, thus each of its null hypothesis is rejected. In conclusion, pleasure significantly mediates hedonic shopping value, website stimulus, and marketing stimulus towards online impulse buying and arousal significantly mediates hedonic shopping value and marketing stimulus towards online impulse buying behavior.

As mentioned in Chapter 2, this research does not consider the direct effect of the exogenous (independent) variables on the endogenous (dependent) variable. According to Zhao et al. (2010) and Hayes (2018), as evidence required for mediation to occur is only a significant

indirect effect. Using Zhao et al.'s (2010) decision tree for establishing and classifying mediation, this research's mediation is most appropriate to be classified as indirect only or full mediation. Thus, it can be concluded that hedonic shopping value and marketing stimulus is fully mediated by pleasure and arousal, whereas website stimulus is fully mediated by pleasure only.

Table 4.17

Bootstrapping Results for Mediation Analysis

Variable	*t value*	*p value*	Significance
HSV → P → OIBB	2.034	0.042	Significant
HSV → A → OIBB	2.816	0.005	Significant
USV → P → OIBB	0.400	0.689	Not significant
USV → A → OIBB	1.137	0.256	Not significant
WEB → P → OIBB	2.569	0.010	Significant
WEB → A → OIBB	1.683	0.093	Not significant
MA → P → OIBB	2.464	0.014	Significant
MA → A → OIBB	2.601	0.010	Significant

Table 4.18

Hypotheses for Mediation Analyses

Variable	Hypotheses
Hedonic Shopping Value	H_0: Pleasure does not significantly mediate the effect of Hedonic Shopping Value that results in consumers' Online Impulse Buying Behavior. H_1: Pleasure significantly mediates the effect of Hedonic Shopping Value that results in consumers' Online Impulse Buying Behavior.
	H_0: Arousal does not significantly mediate the effect of Hedonic Shopping Value that results in consumers' Online Impulse Buying Behavior. H_1: Arousal significantly mediates the effect of Hedonic Shopping Value that results in consumers' Online Impulse Buying Behavior.
Utilitarian Shopping Value	H_0: Pleasure does not significantly mediate the effect of Utilitarian Shopping Value that results in consumers' Online Impulse Buying Behavior. H_1: Pleasure significantly mediates the effect of Utilitarian Shopping Value that results in consumers' Online Impulse Buying Behavior.
	H_0: Arousal does not significantly mediate the effect of Utilitarian Shopping Value that results in consumers' Online Impulse Buying Behavior.

Table 4.18

Hypotheses for Mediation Analyses (continued)

	H_1: Arousal significantly mediates the effect of Utilitarian Shopping Value that results in consumers' Online Impulse Buying Behavior
Website Stimulus	H_0: Pleasure does not significantly mediate the effect of Website Stimulus that results in consumers' Online Impulse Buying Behavior. H_1: Pleasure significantly mediates the effect of Website Stimulus that results in consumers' Online Impulse Buying Behavior.
	H_0: Arousal does not significantly mediate the effect of Website Stimulus that results in consumers' Online Impulse Buying Behavior. H_1: Arousal significantly mediates the effect of Website Stimulus that results in consumers' Online Impulse Buying Behavior.
Marketing Stimulus	H_0: Pleasure does not significantly mediate the effect of Marketing Stimulus that results in consumers' Online Impulse Buying Behavior. H_1: Pleasure significantly mediates the effect of Marketing Stimulus that results in consumers' Online Impulse Buying Behavior.
	H_0: Arousal does not significantly mediate the effect of Marketing Stimulus that results in consumers' Online Impulse Buying Behavior. H_1: Arousal significantly mediates the effect of Marketing Stimulus that results in consumers' Online Impulse Buying Behavior.

4.2. Discussion

This research aims to better understand the relationship between utilitarian shopping values, hedonic shopping values, marketing stimulus, and website stimulus towards online impulse buying behavior mediated by pleasure and arousal in the case of Shopee in Indonesia. Therefore, this section will further explain the findings based on analytical procedures done, and answer the research questions and hypotheses.

4.2.1. Research Question 1 and 2

The following is the research questions along with their hypotheses.

RQ 1: Does hedonic shopping value, utilitarian shopping value, website stimulus, and marketing stimulus affects consumers' pleasure in the case of Shopee?

Hypotheses:

H_1: Hedonic Shopping Value affects consumers' Pleasure in the case of Shopee.

H_2: Utilitarian Shopping Value affects consumers' Pleasure in the case of Shopee.

H_3: Website Stimulus affects consumers' Pleasure in the case of Shopee.

H_4: Marketing Stimulus affects consumers' Pleasure in the case of Shopee.

The following is the second research question along with its hypotheses.

RQ 2: Does hedonic shopping value, utilitarian shopping value, website stimulus, and marketing stimulus affects consumers' arousal in the case of Shopee?

Hypotheses:

H_5: Hedonic Shopping Value affects consumers' Arousal in the case of Shopee.

H_6: Utilitarian Shopping Value affects consumers' Arousal in the case of Shopee.

H_7: Website Stimulus affects consumers' Arousal in the case of Shopee.

H_8: Marketing Stimulus affects consumers' Arousal in the case of Shopee.

The first and second research question and its hypotheses will be answered through the results of the bootstrapping test.

The researchers will first elaborate the answer for the first research question. Referring to Table 4.9, the results show that hedonic shopping value, website stimulus, and marketing stimulus has a significant impact towards pleasure. Hence, the hypotheses for the first research question supported are H_1, H_3, and H_4. Moreover, Table 4.8 shows that the variable with the most significant impact towards pleasure is website stimulus, with a path coefficient value of 0.388. The second highest is hedonic shopping value, with a path coefficient value of 0.250. Last but not least is marketing stimulus, with a path coefficient value of 0.262.

Answering the second research question, the researchers also look at the results on Table 4.9. Based on the results, hedonic shopping value, website stimulus, and marketing stimulus have a significant impact towards arousal. Thus, the hypotheses for the second research question that are supported are H_5, H_7, and H_8. Furthermore, it can be deduced that marketing stimulus contributes the most significant impact towards arousal, with a path coefficient value of 0.369. Following it is the hedonic shopping value, with a path coefficient value of 0.324. Last is the website stimulus with a path coefficient value of 0.164.

The first and second research question shows that hedonic shopping value, website stimulus, and marketing stimulus significantly affect pleasure and arousal. In contrast, utilitarian shopping value has no significant impact on pleasure and arousal.

Consumers with hedonic shopping motivations might rely on a product to fulfill their needs for excitement or other emotional responses (Choirul & Artanti, 2019). Moreover, customers with strong hedonic motives are likely to experience positive feelings, such as pleasure and arousal (Iyer et al., 2020). This is aligned with previous research result by Nurlinda

and Christina (2020), where hedonic shopping value significantly impacts positive emotions in the context of impulse buying on an e-commerce platform.

The variable of website stimulus measured through the dimensions of ubiquity, ease of use, and information exchange, significantly affect pleasure and arousal. With Shopee being an online environment accessible anytime and anywhere, consumers can complete transactions effectively and benefit from the service. Furthermore, when a platform is easy to use and provides interactive functions, consumers will likely exhibit positive feelings as it helps to build connections and trust (Chen & Yao, 2018; Lin & Lo, 2016; Tojib & Tsarenko, 2012). This finding is consistent with a prior study by Chen and Yao (2018), where consumers have strong feelings regarding ubiquity, ease of use, and information exchange.

With numerous e-commerce platforms operating in Indonesia, each of them competes to win users' hearts through several marketing efforts. Shopee users are exposed to various marketing stimuli when using the platform, such as being guaranteed cheapest prices, getting free delivery, and getting bizarre promotions to push them to purchase products (Christiana, 2019). This finding is aligned with previous studies by Chen and Yao (2018) and Iyer et al. (2020), where marketing stimuli do not trigger negative feelings in customers but rather positive ones.

Past studies have stated that utilitarian shopping value can influence one’s pleasure and arousal (Babin et al., 1994; Liu et al. 2020). However, result shows that the utilitarian shopping value has no effect towards both pleasure and arousal (see Table 4.9). This is consistent with studies by Aziz et al. (2018) and Suparno (2020), where utilitarian shopping motives has no association with both pleasure and arousal. It is because utilitarian shopping values increase one’s self-control, reducing the likelihood of impulse purchases. Moreover, Iyer et al. (2020) stated that consumers with utilitarian motives less likely experienced positive emotions. Therefore, the researchers believe that utilitarian shopping value does not significantly impact pleasure and arousal.

4.2.2. Research Question 3

The following is the third research question along with its hypotheses.

RQ 3: Does pleasure and arousal mediate the influence of hedonic shopping value, utilitarian shopping value, website stimulus, and marketing stimulus on consumers' online impulse buying behavior in the case of Shopee?

Hypotheses:

H_9: Pleasure mediates the effect of Hedonic Shopping Value that results in consumers' Online Impulse Buying Behavior in the case of Shopee.

H_{10}: Pleasure mediates the effect of Utilitarian Shopping Value that results in consumers' Online Impulse Buying Behavior in the case of Shopee.

H_{11}: Pleasure mediates the effect of Website Stimulus that results in consumers' Online Impulse Buying Behavior in the case of Shopee.

H_{12}: Pleasure mediates the effect of Marketing Stimulus that results in consumers' Online Impulse Buying Behavior in the case of Shopee.

H_{13}: Arousal mediates the effect of Hedonic Shopping Value that results in consumers' Online Impulse Buying Behavior in the case of Shopee.

H_{14}: Arousal mediates the effect of Utilitarian Shopping Value that results in consumers' Online Impulse Buying Behavior in the case of Shopee.

H_{15}: Arousal mediates the effect of Website Stimulus that results in consumers' Online Impulse Buying Behavior in the case of Shopee.

H_{16}: Arousal mediates the effect of Marketing Stimulus that results in consumers' Online Impulse Buying Behavior in the case of Shopee.

The third research question and its hypotheses will be answered using the bootstrapping test as well. Table 4.17 shows that pleasure significantly mediates hedonic shopping value, website stimulus, and marketing stimulus towards online impulse buying behavior for it passed the requirements of mediation by Zhao et al. (2010) and Hayes (2018). Furthermore, from the bootstrapping results for mediation analysis (Table 4.17), arousal significantly mediates hedonic shopping value and marketing stimulus towards online impulse buying behavior. Thus, H_9, H_{11}, H_{12}, H_{13}, and H_{16} are supported.

From Table 4.17, pleasure and arousal does not mediate utilitarian shopping value towards online impulse buying behavior, and arousal does not mediate website stimulus towards online impulse buying behavior, as the requirements for mediation are not met. Hence, H_{10}, H_{14}, and H_{15} are not supported.

The results (see Table 4.17) shows that the relationship of hedonic shopping value towards online impulse buying behavior is significantly mediated by pleasure and arousal, with *t values* of 2.034 and 2.816 and *p values* of 0.042 and 0.005 respectively. Hence, hedonic shopping value fulfills the mediation requirement by Zhao et al. (2010) and Hayes (2018). This is consistent with a previous study by Nurlinda and Christina (2020), asserting that consumers with

hedonic shopping values will feel excited when shopping on the online platform, which in this research is Shopee. The positive emotions that consumers feel will then result in a higher likelihood of online impulse buying behavior.

As seen on Table 4.17, the relationship of website stimulus towards online impulse buying behavior is significantly mediated by pleasure, with *t value* of 2.569 and *p value* of 0.010. Therefore, looking at Zhao et al. (2010) and Hayes's (2018) mediation classification, it can be deduced that website stimulus is fully mediated by pleasure. It is supported by a study from Liu et al. (2013), which stated that website stimulus stimulates impulse buying behavior indirectly through pleasure, indicating a mediating role by pleasure in the relationship. On the other hand, arousal did not pass the requirements to mediate the relationship between website stimulus and online impulse buying behavior, since the *t value* of 1.683 and *p value* of 0.093. According to Zhao et al. (2010) and Hayes (2018) mediation classification, this means that there is no mediation effect. Similarly, a study by Liu et al. (2020) also found that their research variables related to website stimulus were insignificant towards arousal, but significant towards pleasure. This is possible for consumers might feel that it is just another online purchase for them, thus not feeling aroused, resulting in no online impulse buying behaviors. Moreover, a study by Wiranata and Hananto (2020) showed that website stimulus does not affect impulse buying behavior in e-commerce, indicating the possibility of website stimulus to be mediated by pleasure only and not arousal.

Looking at Table 4.17, it proves that the relationship between marketing stimulus towards online impulse buying behavior is significantly mediated by pleasure and arousal, with *t values* of 2.464 and 2.601 and *p values* of 0.014 and 0.010 respectively. This implies that marketing stimulus fulfills the mediation requirement of Zhao et al. (2010) and Hayes (2018), and indicates a full mediation. Furthermore, a study by Chen and Yao (2018) claimed that consumers are more likely to manifest impulse buying behaviors when they feel positive emotions, making pleasure and arousal the mediators of marketing stimulus and online impulse buying behavior in Shopee e-commerce platform.

Lastly, the bootstrapping results for mediation (see Table 4.17) of utilitarian shopping value towards online impulse buying behavior through pleasure and arousal shows *t values* of 0.400 and 1.137 and *p values* of 0.689 and 0.256. This means that both pleasure and arousal does not significantly impact utilitarian shopping value towards online impulse buying behavior. Hence, it can be deduced that there is no mediation effect. Research by Carpenter et al. (2005) and Childers et al. (2001) posited that between the hedonic and utilitarian shopping motivation,

one may be more dominant than the other, as cited in Parker and Wang (2016). Unlike consumers with hedonic shopping motivation, consumers with strong utilitarian shopping motivation are less likely to experience positive feelings. With positive emotions being an important mediator, consumers with strong utilitarian shopping values will be less prone towards exhibiting online impulse buying behaviors (Iyer et al., 2020).