

3. RESEARCH DESIGN

3.1. Introduction

After understanding the underlying literature of the study and the relationship between the variables, in this chapter, the researcher focuses more on the research design. Research design is a framework for collection, measurement and analysis of data that is created to answer the research questions (Sekaran & Bougie, 2016). Thus, the chapter includes the following sub-sections namely: the foundation of the research, description of variables, description of data, and methods of data analysis.

3.2. Foundations of the Research

In this section, the researcher discusses the foundation of the research, concerning the researcher's philosophical stance, methodology and method, and research ethics.

3.2.1. Philosophical Stance

Boucher (2014, p. 17) suggested that, "philosophical stance is pragmatically justified perspectives or ways of seeing." Burrell and Morgan (1979) categorized philosophical assumptions as epistemology and ontology. Before stating the philosophical stance of the research, each assumption is discussed in Table 3.1.

Table 3.1. Philosophical Assumptions and Perspectives

| Philosophical Assumptions | Philosophical Perspectives |
|--|--|
| Ontology: The researcher's belief regarding the nature of reality. | 1. Objectivism Social phenomena are independent without the interference from social actors. 2. Constructionism Social phenomena is always a subject of |

Table 3.1. Philosophical Assumptions and Perspectives (Continued)

| | |
|--|--|
| | revision, since it is a result from social interaction. |
| <p>Epistemology:</p> <p>The researcher's belief regarding the knowledge of human.</p> | <p>1. Positivism</p> <p>There is an objective truth in any research situation without being affected by the researcher's belief, and emphasizes on quantifiable data that will need statistical tools.</p> <p>2. Interpretivism</p> <p>Focuses on interpreting other people's point of view.</p> |

Source: Burrell and Morgan (1979), Bryman (2012)

Based on Table 3.1., this research adopts the objectivism ontological view, since the researcher believes that reality exists independently, and it happens without the intervention from social actors. Moreover, the research also adopts the positivistic epistemological view due to the researcher's belief that there is an objective truth in this research situation without any interference from the researcher's belief. Since the researcher adopts positivistic point of view, therefore, quantitative data was used to conduct the research. Quantitative data is the type of data that can be explained numerically regarding objects, variables, and values (Hox & Boeije, 2004). Moreover, in order to answer the research questions, the researcher analyzed the data using statistical software named International Business Machines Statistical Package for Social Science (IBM SPSS).

3.2.2. Methodology and Method

Research methodology refers to the theory of how the research will be executed (Saunders et al., 2009). According to Sekaran and Bougie (2016), there are several research methodologies, which elaborated in Table 3.2.

Table 3.2. Research Methodologies

| Method of the Research | Description |
|-------------------------------|--|
| Experiments | Mostly connected to a proposed description of scientific approach to a research. |
| Survey Research | Collecting data from various people to explain their behavior. |
| Ethnography | Involves a specific culture and identifies its effect on the subject of the research. |
| Case Studies | Involves a specific case of event or situation that catches the researchers' interest. |
| Grounded Theory | To generate new theory from the data. |
| Action Research | Usually chosen to solve problems and provide some solutions for the problems. |

Source: Sekaran and Bougie (2016)

According to Mertler (2018), survey is used as an approach in quantitative research. Moreover, survey is mostly used in research for business context since it mainly focuses towards consumers as the respondents. Since the respondents of this research were ZARA consumers, hence, the researcher used survey as the methodology to execute this research.

Having discussed the research methodology, the researcher will explain the method used in this research. According to Bryman (2012), research method refers to the technique in collecting the data. Sekaran and Bougie (2016) suggested that there are three methods used in survey research namely: Interview, questionnaire, and observation. In this research, the researcher obtained the data using self-administered questionnaires and distributed it online since online questionnaires covers wide range of geographical area, reaching individuals who were difficult to

reach through other methods (Sekaran & Bougie, 2016). Hence, the research method for this research is questionnaire.

3.2.3. Research Ethics

Research ethics are defined as set of rules regarding the norms of behavior of the researcher in the process of the research (Sekaran & Bougie, 2016). The ethical principles are elaborated in Table 3.3.

Table 3.3. Ethics Principle and its Implications

| No. | Ethics Principle | Description |
|-----|-----------------------------|--|
| 1 | Harm to participants | The research participants should not be harmed both physically and mentally in terms of filling the questionnaire. |
| 2 | Lack of information consent | The research participants should be well-informed regarding the purpose of the research. |
| 3 | Invasion of privacy | The research process anonymity and confidentiality should be maintained. |
| 4 | Deception | The research participants should receive a clear information regarding the research without being maneuvered. |

Source: Bryman (2012)

The researcher distributed questionnaires for ZARA consumers to fill in. Therefore, the researcher would not coerce the respondents and to ask for their consent to fill in the questionnaire. Moreover, the researcher would keep the questionnaire result confidential to protect the respondents' privacy. The researcher

would also commit to present a clear data to the respondents and generate an honest result.

3.3. Descriptions of Variables

Sekaran and Bougie (2016) defined operationalization as a process to reduce the abstract context in a concept, turning it into a tangibly measurable concept. In this section, the researcher will explain the operationalization of the variables. Ghozali (2018) mentioned that there are four kinds of variables namely: independent variable, dependent variable, moderating variable, and mediating variable. However, there were only three kinds of variables used in this research. Further details regarding the variables are explained in Table 3.4.

Table 3.4. Research Variables

| Variable Type | Definition | Research Variable |
|----------------------|---|-----------------------------|
| Dependent Variable | The variable that represents the key interest of the researcher. | Impulse Buying Behavior |
| Independent Variable | The variable that somehow affect the dependent variable either positively or negatively. | Hedonic Shopping Motivation |
| Moderating Variable | The variable that has an effect towards the relationship of dependent-independent variable. | Money Availability |
| | | Time Availability |
| | | Task Definition |

Source: Sekaran and Bougie (2016)

3.3.1. Impulse Buying Behavior

The dependent variable for this research was impulse buying behavior. In the previous chapter, the researcher concluded impulse buying as an unplanned and

spontaneous purchase decision made by the consumers, which mostly occurred in purchasing hedonic products. In measuring the concept, two dimensions are proposed by Badgaiyan et al. (2016). Further operationalization for the variable is shown in Table 3.5.

Table 3.5. Impulse Buying Behavior Operationalization

| Dimensions | Elements | Statements |
|-------------------|--------------------------|---|
| Cognitive | Cognitive Deliberation | Before I buy things in ZARA, I do not consider whether the purchase is practical. |
| | Unplanned Buying | I usually buy things in ZARA spontaneously. |
| Affective | Irresistible Urge to Buy | Sometimes, I cannot suppress the feeling of wanting to make spontaneous purchase in ZARA. |
| | Positive Buying Emotions | I buy things in ZARA because I like them. |

3.3.2. Hedonic Shopping Motivation

Babin et al. (1994) claimed that hedonic motivation is similar with utilitarian motives, which concerns the task's practical value, however, hedonic motivation relies more towards fulfilling the hedonic needs, such as fun, and leisure. In relation with its definition, hedonic motivation consisted of several dimensions, as proposed by Dey and Srivastava (2017). The operationalization of hedonic motivation is discussed in Table 3.6.

Table 3.6. Hedonic Shopping Motivation Operationalization

| Dimensions | Elements | Statements |
|-------------------|-----------------|---|
| Novelty | Newness | I go shopping to see what new products are available in ZARA. |

Table 3.6. Hedonic Shopping Motivation Operationalization (Continued)

| | | |
|--------------------|---------------|---|
| Praise from others | Compliments | I like receiving compliments from my friends or family during shopping in ZARA. |
| Fun | Enjoyment | Compared to other activities, shopping in ZARA is so fun. |
| Escapism | Diversion | Shopping in ZARA allows me to escape from problems in reality for a moment. |
| Social interaction | Communication | I like to go shopping in ZARA with my friends or family because I can interact with them during shopping. |

3.3.3. Money Availability

According to Chang et al. (2014), money availability refers to the customers monetary resource, such as available cash to use. Based on its definition, money availability was measured through several elements, such as perceived buying power, allowance limitation, and perceived excess allowance (Beatty & Ferrell, 1998).

Table 3.7. Money Availability Operationalization

| Elements | Statement |
|----------------------------|--|
| Perceived Buying Power | I feel that I can afford to make unplanned purchases when I am in ZARA. |
| Allowance limitation | I do not have tight budget when I shop in ZARA. |
| Perceived Excess Allowance | I feel that I have enough extra money when I shop in ZARA, so that I can spend extravagantly when I find something that I really like. |

3.3.4. Time Availability

The third moderating variable was time availability, which defined as time availability as the amount of time available for shopping, which may act as a pressure for the consumers (Amos et al., 2013; Babin et al., 1994). In relation with

its definition, time availability had several elements, namely: Time limitation, time pressure, and time location. The operationalization for time availability is explained in Table 3.8.

Table 3.8. Time Availability Operationalization

| Elements | Statement |
|-----------------|---|
| Time Limitation | I do not have limited time when I shop in ZARA. |
| Time Pressure | When I shop in ZARA, I am not pressured with the time available for shopping. |
| Time Allocation | In terms of time available for shopping, I am not rushed when I shop in ZARA. |

3.3.5. Task Definition

Punj (2011) posited that task definition refers to the consumers' goal to fulfill their obligation in specific situation. In measuring this concept, researchers have used several elements, which proposed to influence the consumers' motivation in fulfilling their shopping obligation, provided in Table 3.9.

Table 3.9. Task Definition Operationalization

| Elements | Statement |
|---|---|
| Perceived Shopping Enjoyment for Others | I enjoy shopping in ZARA for others, such as my family and friends. |
| Task Completion | I shop in ZARA only to find something that I look for. |
| Gift Shopping | I shop in ZARA to buy someone a gift. |

3.4. Descriptions of Data

In this section, the researcher will further explain more regarding the data, including the type of data, the source of data, and the sampling method.

3.4.1. Types of Data

According to Ghozali (2018), there are four types of data scales, namely: nominal, ordinal, interval, and ratio. Provide further understanding regarding the scales in Table 3.10.

Table 3.10. Types of Data

| Data Scale | Description |
|------------|---|
| Nominal | The data has no intrinsic value and categorizes subjects to mutually exclusive and collectively exhaustive groups. |
| Ordinal | The data categorizes subjects into groups or categories, and the ranks between them are recognized in a meaningful way. |
| Interval | The data has 'numerically equal distances', where the differences between variables are considered as meaningful and does not recognize zero as meaningful measurement point. |
| Ratio | The data has 'numerically equal distances', and zero is considered as meaningful measurement point. |

Source: Sekaran and Bougie (2016)

Based on Table 3.10., this research mainly used interval, ordinal and nominal data. Furthermore, Sekaran and Bougie (2016) found several rating scales namely: dichotomous, category, semantic differential, numerical, itemized rating, likert, fixed or constant sum rating, staple, graphic rating, and consensus. However, there were only several of rating scales implemented in this research, which further explained in Table 3.11.

Table 3.11. Rating Scale Types

| Type of Rating Scale | Explanation |
|----------------------|--|
| Dichotomous Scale | A scale that consists of two choices (yes or no), and the respondents have to choose one for their answer. |
| Likert Scale | A five-point scale that is used to capture either the respondent's disagreement or agreement. |
| Category Scale | A scale that consists of more than two choices, and the respondents have to choose one for their answer. |

Source: Sekaran and Bougie (2016)

Having explained the types of data and rating scale, which were applied in this research, the researcher will further elaborate the classifications in the questionnaire in Table 3.12.

Table 3.12. Questionnaire Details

| Question or Statement | Options | Type of Data | Rating Scale |
|--------------------------|--|--------------|--------------|
| Profile Questions | | | |
| Gender | Male Female | Nominal | Dichotomous |
| Living Location | Surabaya Jakarta Bali Others | Nominal | Category |
| Age Group | ≤ 15 Years Old 15 - 24 Years Old 25 – 34 Years Old 35 – 44 Years Old 45 – 54 Years Old 55 – 64 Years Old ≥ 65 Years Old (Kemenkes RI, 2018) | Ordinal | Category |
| Occupation | <ul style="list-style-type: none"> • Student • University Student • Entrepreneur • Housewife • Others | Nominal | Category |
| Disposable Income | <ul style="list-style-type: none"> • <Rp1,000,000 • Rp.1,000,000 - Rp. 5,000,000 | Ordinal | Category |

Table 3.12. Questionnaire Details (Continued)

| | | | |
|--|--|----------|-------------|
| | <ul style="list-style-type: none"> ● Rp.5,000,000 - Rp.10,000,000 ● >Rp.10,000,000 | | |
| Screening Questions | | | |
| Have you ever at least bought one product from ZARA Indonesia's store? | <p style="text-align: center;">Yes</p> <p style="text-align: center;">No</p> | Nominal | Dichotomous |
| Main Questions | | | |
| Independent Variable | <ol style="list-style-type: none"> 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree | Interval | Likert |
| Moderating Variable | <ol style="list-style-type: none"> 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree | Interval | Likert |
| Dependent Variable | <ol style="list-style-type: none"> 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree | Interval | Likert |

Table 3.12. Questionnaire Details (Continued)

| | | | |
|--|-------------------|--|--|
| | 5. Strongly Agree | | |
|--|-------------------|--|--|

3.4.2. Sources of Data

Sekaran and Bougie (2016) suggested that there are two sources of data, namely: primary data and secondary data. They further stated that primary data (interviews, observation, self-administered questionnaires and experiment) is gathered by researchers for specific purposes depending on their study. In contrast, secondary data is referred as data, which have been collected by other researchers for different purposes from the current research's purposes (Sekaran & Bougie, 2016). Since the researcher used self-administered questionnaires as the research instrument, hence, the main source of this research is primary data. The questionnaire was mainly distributed in Surabaya, due to the researcher's residing in Surabaya area. This is also taking into account that Surabaya has the second highest number of ZARA stores in Indonesia. Moreover, the questionnaire was also distributed in Jakarta, since it has the highest number of ZARA stores.

3.4.3. Sampling Method

According to Sekaran and Bougie (2016), sampling is a process of selecting individuals or objects as representatives of the entire population. They suggested that there are five steps in sampling namely: Define the population, determine the sample frame, determine the sampling design, determine the appropriate sample size, and lastly, execute the sampling process.

The first step was to define the population. Population is the total number of people or events, whom the researcher would like to investigate (Sekaran & Bougie, 2016). In this research, the research population would be ZARA's consumers. Hence, these people should have ever bought at least one product in ZARA Indonesia's store. Further details regarding the population criteria will be explained in Table 3.13.

Table 3.13. Population Criteria

| Criteria | Reason |
|--|---|
| Have you ever at least bought one product from ZARA Indonesia's store? | Since impulse buying behavior and hedonic shopping motivation focus towards the shopping experience, hence, consumers should have ever experienced buying at least one product from ZARA Indonesia store. |

The second step was to determine the sample frame. According to Sekaran and Bougie (2016), sample frame is the representative of all aspects in the research population. However, since the number of potential respondents are many, it was impossible to quantify the total number of population for the potential respondents. Hence, the researcher was unable to define the sample frame of this research.

The third step was to choose the sampling design. Sekaran and Bougie (2016) suggested that there are two types of sampling design namely: probability and nonprobability sampling. They explained that probability sampling refers to the chance of elements in a population to be selected as the sample subjects. Conversely, non-probability sampling refers to the inability for the elements in a population to be selected as the sample subject (Sekaran & Bougie, 2016). Further discussion related to probability and non-probability sampling are elaborated in Table 3.14. and Table 3.15 respectively.

Table 3.14. Probability Sampling Design

| Probability Design | Explanation |
|-------------------------|---|
| Simple Random Sampling | Each part in the population has an equal likelihood to be chosen as the subject. |
| Complex Random Sampling | Specific individuals have a higher chance to be selected as the subject of the sampling. It can be further divided into four categories: 1. Systematic Sampling: The sample is determined from every certain number in the population. |

Table 3.14. Probability Sampling Design (Continued)

| | |
|--|--|
| | <ol style="list-style-type: none"> 2. Stratified Random Sampling: The population is divided into meaningful categories and the sample will be chosen randomly from one of the categories. 3. Cluster Sampling: The population is divided into clusters that differ from one another, and the sample will be randomly chosen from each cluster. 4. Double Sampling: The data is collected twice from the subjects through preliminary research and further research. |
|--|--|

Source: Sekaran and Bougie (2016)

Table 3.15. Non-Probability Sampling Design

| Non-Probability Design | Explanation |
|-------------------------------|---|
| Convenience Sampling | The data is collected through people who are easily accessible. |
| Purposive Sampling | <p>It will be further divided into two categories:</p> <ol style="list-style-type: none"> 1. Judgement Sampling: The sample subjects are selected based on their ability in providing certain information needed. 2. Quota Sampling: The population is divided into groups and specific number of people will be selected as the sample subjects. |

Source: Sekaran and Bougie (2016)

In this research, the researcher implemented simple random sampling technique since the sampling technique allows people in the population to have equal chance to be selected as respondents. However, in order to fulfill the population criteria, the researcher had set a screening question. Moreover, the

sampling technique also enabled the researcher to distribute the questionnaire randomly online (Whatsapp, Instagram, Line, Facebook) since everyone has an equal chance to be respondents.

The last step was to determine the sample size. Under normal circumstances, the sample size can be determined through the number of population. However, since the number of population was not known, thus, the researcher used the formula suggested by Green (1991) to determine the sample size.

$$N > 50 + 8m \quad (3.1.)$$

Where:

N= sample size

m= number of independent and moderating variables

Since the researcher had 1 independent variable and 3 moderating variables, hence the sample size should be a minimum of 82 respondents.

3.5. Methods of Data Analysis

In the previous section, the researcher has explained the variables of the research. In this section, the researcher discussed the methods used to analyze the data concerning piloting, validity and reliability tests, and analytical procedures.

3.5.1. Piloting

Boynton (2004) suggested that piloting is essential to conduct towards definitive representative respondents of the research. The main reason to conduct piloting is to make sure that the respondents will have no trouble in filling the questionnaires and in obtaining the data (Saunders et al., 2009). According to Ruel et al. (2015), a minimum of 12 respondents are required to participate in the piloting process. Therefore, the researcher conducted the piloting process towards 15 people to test the questionnaire. After piloting, several adjustments were made, which elaborated in Table 3.16.

Table 3.16. Piloting Result

| Classification | Pre-Piloting Questions | Suggestions | Post-Piloting Questions |
|-------------------------|--|--|--|
| Profile Question | <ul style="list-style-type: none"> • Siswa • Mahasiswa • Pengusaha • Ibu Rumah Tangga • Lainnya | Siswa and mahasiswa is merged since they belong to the same category, student. Moreover, a respondent has suggested to add 'worker' into the classification. | <ul style="list-style-type: none"> • Pelajar / Mahasiswa • Pegawai • Pengusaha • Ibu Rumah Tangga • Lainnya |
| Impulse Buying Behavior | Saya biasanya membeli barang di ZARA secara spontan. | A respondent suggested to input additional information regarding what spontaneous purchase is. | Saya biasanya membeli barang di ZARA secara spontan (tidak terencana). |
| Impulse Buying Behavior | Terkadang, saya tidak dapat menahan keinginan untuk melakukan pembelian spontan di ZARA. | A respondent suggested to input additional information regarding what spontaneous purchase is. | Terkadang, saya tidak dapat menahan keinginan untuk melakukan pembelian spontan (tidak terencana) di ZARA. |
| Impulse Buying Behavior | Saya membeli sesuatu di ZARA karena saya menyukainya. | Few respondents suggested that the question is too obvious to answer, | Saya membeli sesuatu di ZARA hanya karena saya menyukainya. |

Table 3.16. Piloting Result (Continued)

| | | | |
|---------|--|--|--|
| | | hence, they suggested to put more emphasis on the question. | |
| Novelty | Saya berbelanja untuk melihat produk baru apa yang tersedia di ZARA. | Few respondents said that berbelanja untuk melihat is a bit unfitting. | Saya mengunjungi ZARA untuk melihat produk baru apa yang tersedia. |

3.5.2. Validity and Reliability

Saunders et al. (2009) posited that in order to reduce the possibility of wrong research answers, hence, the researcher should pay more attention towards the validity and reliability of the data. Validity is intended to measure the accuracy of the data in measuring the variable, meanwhile reliability is intended to measure the consistency and stability of the measuring instrument (Sekaran & Bougie, 2016). The decision criteria for validity and reliability tests are defined in Table 3.17.

Table 3.17. Validity and Reliability Tests Decision Criteria

| Test | Decision Criteria |
|-------------|---|
| Validity | The Pearson Correlation (p-value) should be lower than 0.05 |
| Reliability | The Cronbach Alpha should be above 0.6 |

Source: Ghozali (2018), Sekaran and Bougie (2016)

3.5.3. Analytical Procedures

In this section, the researcher explained the analytical procedures of the research, which consisted of classical assumption test, moderated regression analysis and the significance test.

3.5.3.1. Classical Assumption Test

The classical assumption test was done since the research uses Moderated Regression Analysis, which follows the basic concept of linear regression. The assumptions that needs to be fulfilled covers from autocorrelation, multicollinearity, heteroscedasticity, and normality (Lind et al., 2015). However, autocorrelation test was not conducted since this study is cross-sectional study, while autocorrelation test is mostly used in time-series studies (Ghozali, 2018). Further descriptions regarding the classical assumption tests are provided in Table 3.18.

Table 3.18. Classical Assumption Test

| Test | Hypotheses | Description |
|--|--|---|
| Multicollinearity: To test independent variables to make sure that they are not correlated with each other. | - | If Variance Inflation Factor (VIF) ≤ 10 means that there is no multicollinearity. |
| Normality: To test whether or not the residuals (the difference between actual and predicted value) are normally distributed. | H ₀ : The residuals are normally distributed. H ₁ : The residuals are not normally distributed. | One-Sample Kolmogorov Smirnov Test: a. Assymp. Sig. (2-tailed) ≥ 0.05 means fail to reject H ₀ . b. Assymp. Sig. (2-tailed) ≤ 0.05 means reject H ₀ . |
| Heteroscedasticity: To test whether the errors among the independent variables are consistent. | H ₀ : There is no heteroscedasticity. H ₁ : There is heteroscedasticity. | Glejser Test a. If p value is ≥ 0.05 means fail to reject H ₀ . |

Table 3.18 Classical Assumption Test (Continued)

| | | |
|--|--|--|
| | | b. If p value is ≤ 0.05 means reject H_0 . |
|--|--|--|

Source: Lind et al. (2015), Ghozali (2018)

3.5.3.2. Moderated Regression Analysis

After knowing the validity and reliability of the data, the researcher will conduct Moderated Regression Analysis (MRA) to analyze the data. The purpose of this test is to figure out the moderating effect of money availability, time availability, and task definition in affecting the relationship between hedonic shopping motivation and impulse buying behavior. The relationship between the variables will be tested using the following formula:

$$Y = i + \beta_1 X + \beta_2 Z + \beta_3 XZ + e \quad (3.2.)$$

Equation 3.2. showed that β_1 is the coefficient of independent variable (X) as the predictor of dependent variable (Y), while the moderating variable (Z) = 0. Likewise, β_2 is the coefficient of Z, as the predictor of Y, while X = 0. Last, β_3 is the coefficient of the interaction term (XZ) is to measure the moderating effect of Z on X towards Y. The statistical model for MRA is shown in Figure 3.1.

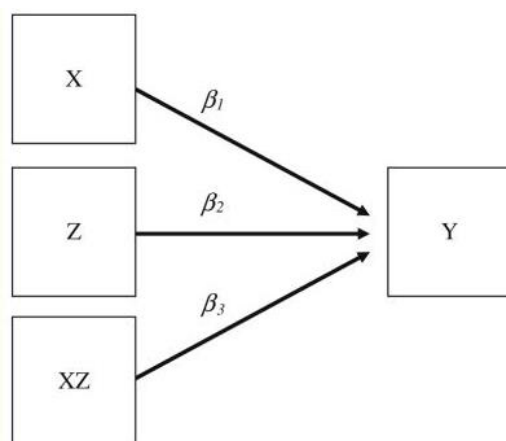


Figure 3.1. Moderated Regression Analysis (MRA) Statistical Model

Before conducting the regression analysis, the researcher would first need to create an interaction term (XZ) between the independent variable (X) and moderating variable (Z) (Ghozali, 2018). Moreover, to reduce the probability of multicollinearity, the independent variable (X) will be centered (Boduszek, 2013). According to Ghozali (2018), there are three regressions analysis will be conducted in MRA:

1. Linear regression analysis of X in predicting Y.
2. The analysis of two variables (X and Z) in predicting Y.
3. The analysis of three variables (X, Z, and XZ) in predicting Y.

The first regression will be used as a basis in comparing the moderation effect. Furthermore, Boduszek (2013) suggested that the moderation effect in this research will be acknowledged in three conditions:

1. All the previously mentioned regressions are significant in predicting Y.
2. The significance value of change of adjusted R^2 is below 0.05 in the second and third model.
3. There is a significant result of interaction term (XZ) in predicting Y.

In seeing the influence of the moderating variable, the coefficient of β_3 can be used as a point of determination. If its value is positive, then it can be concluded that it has a positive moderating effect (Ghozali, 2018).

3.5.3.3. Significance Test

To test the significance of the model, the researcher will utilize several tests namely F-test, t-test, and adjusted R^2 . Further discussion regarding the tests will be covered in Table 3.19.

Table 3.19. Significance Test

| Test | Definition | Hypotheses | Decision Criteria |
|--------|--|--|---|
| F-test | Testing the regression model to know if it is possible for all | $H_0: \beta_1 = \beta_2 = \dots = \beta_k = 0$ | a. If p value is ≥ 0.05 means fail to reject H_0 . |

Table 3.19. Significance Test (Continued)

| | | | |
|--------------------|---|---|--|
| | independent variables to have zero regression coefficients towards the dependent variables. | $H_1: \beta_1 \neq \beta_2 \neq \dots \neq \beta_k \neq 0$ | b. If p value is ≤ 0.05 means H_0 will be rejected. |
| T-test | Testing the independent variables may have zero regression individually. | $H_0: b_i = 0$ $H_1: b_i \neq 0$ | a. If p value is ≥ 0.05 means fail to reject H_0 . b. If p value is ≤ 0.05 , reject H_0 . |
| Adjusted R^2 | The percentage that explains how far independent variable can explain the variance in dependent variable. | - | a. Usually range from 0-1, and the closer to 1, the better. |
| Sig. F Change Test | Testing the change in significance when a new predictor is added into the model. | H_0 : there is no significant change H_1 : there is significant change | a. If p value is ≥ 0.05 means fail to reject H_0 . b. If p value is ≤ 0.05 means reject H_0 . |

Source: Boduszek (2013), Lind et al. (2015), Ghozali (2018)