

CHAPTER III

RESEARCH METHOD

3.1 Research Paradigm

Research methodology is a scientific way to attain data with certain objectives and purposes. Research methodology consists of 4 matters that need to be noticed and conducted: the scientific method, data, the objective, and functionality. The scientific method refers to the way research is conducted based on the knowledge characteristics: rational, empiric (could be observed) and systematic (the logic procedures). The data collection refers to the validity, reliability and objective; data that counts valid must be reliable and objective, but the reliable or objective data may not count as valid. The research objective must be filled with the objectives that consist of three types; discovery, verification, and development. The purpose of research is to understand, solve, and anticipate the problems. (Sugiyono, 2022)

Research of the study is divided into two types based on the axiomatic base of reality, process, and the research characteristic. Traditional/positivist method and artistic/post-positivist method are both used in research study. Positivist methods labeled “traditional” due the identified problem that need verification by certain societies or extend the knowledge regarding the phenomenon by involving large amounts of samples; or so known as quantitative research. Whilst post-positivist methods considered as new method and more complex (Borg & Gall 1988; Sugiyono, 2022), due to the subjectivity from the data collection and the main

measurement tool for collecting data is to examine themselves; later this research is known as qualitative (Sugiyono,2022).

Research paradigm is a set of beliefs that researchers should determine in conducting research. Positivist and post-positivist holds a different paradigm in 4 key activities such the choice of framework (hypothesis or premises), the process and selection tools for collecting data, the procedures to generate the data analysis, and formulate the conclusions (Khaldi, 2017). Positivist studies rely on the natural sciences whether post-positivist research is considered as social science research. Positivist research is divided into two designs of study: experimental or non-experimental. Non experimental studies are considered as pre-experimental studies because the researcher acts as observant to the samples and the control variable. Experimental studies can be executed in a true experiment, quasi experimental, and a single case study. According to Kazdin in Khaldi (2017) single case study refers to a single subject that was researched to find causal relationship and could be prone to debatable results. True experiment studies refers to the researcher's flexibility to control and manipulate variables in the research and involving the random sampling (as systematic sampling or the whole population). The quasi experiment refers to the true experimental research development, and more specifically. It has a group of controls but limiting the influencing variables, and limitation of the samples.

This research is focused on positivist studies and using the true experimental method as the process of collecting data. The reason why is to prove the empirical gap by referring to the previous studies by Serenko (2023), Mahand and Caldwell

(2023) and Hamouche (2023) regarding the quiet quitting phenomenon and its relation to employees' affective organizational commitment. Sugiyono (2022) also states that positivist studies can be protracted if the main problem is already identified. Associative hypotheses are used in this research, finding the correlation between variables. Causal correlation between variables is applied to this research, involving independent variables and dependent variables. This research is using the path analysis technique to discover if the independent variables could affect the dependent variable directly or indirectly; through the mediating variable. The data analysis will exist in interval and ratio, and using the statistical product moment to check the hypothesis and each variable will be tested by confirmatory factor analysis.

3.2 Research Object and Subject

According to the Indonesian Language Center Dictionary (KBBI), an object is a thing or entity that is targeted for study, observation, and so on. This is supported by Sugiyono (2022), who suggests that a research object can be a situation, event, or condition that will be studied and tends to gather to form variations that will be grouped into a variable. In research, there are five types of variables based on their nature: independent variables, dependent variables, moderator variables, intervening variables, and control variables. Several variables will be explained in the following points:

- Independent variables are predictors, antecedents, and also known as independent variables that have the nature of influencing dependent variables.
- Dependent variables have the nature of being outputs, criteria, and consequences, because they are influenced by independent variables.
- Moderator variables are variables that affect (strengthen or weaken) the relationship between independent variables and dependent variables.
- Intervening variables are mediating variables that create an indirect relationship between the dependent variables and independent variables. They cannot be measured or observed directly.
- Control variables are variables that are controlled or made constant so that the influence of independent variables on dependent variables is not affected by external factors.

This research consists of dependent variable, independent variables and intervening variable. Dependent variable in this research is Affective Organizational Commitment (AOC). The independent variables are Transformational Leadership (TL) and Work-Life Balance (WLB). The intervening variable or well known as mediating variable in this study is Employee Engagement (EE).

3.3 Research Subject

According to KBBI, subject refers to matters that are studied, audience, and group of people, entities, places that are inspected and being followed to attain a certain purpose. Research subject refers to the individual who participates in the study as a source of information, to answer the question related to the study. Each researcher could determine the subject's criteria by the problem based on data on the fields or phenomenon (University of Rochester, n.d.). Therefore, a research subject could be defined as the individual with particular criteria that participates in research.

Based on research background, data obtained shows that Indonesia has undergone a lot of demographic bonuses that will determine the country's faith; become a developed nation in 2030 or will stay in developing nations forever. One of the biggest growth productivity in Indonesia is in the Visual Communication Design subsector. The subsector mentioned having contributed GDP as much as 579,3 billion in 2016 and raised to 0,82 trillion in 2021 (Kementerian Pariwisata Republik Indonesia, n.d.). Generation Z as the demographic bonuses are the concentration of the nation's hope. Therefore, this research subject involves generation z who works hybrid as a creative field focusing in the Visual Communication Design segment.

3.4 Population and Sample

According to Sekaran & Bougie (2019), the population is related to entire aspects of the research including groups of people, events and things of interest that researchers would like to investigate. Defining the population must be inline with the research objectives and the scope of studies. Sample is the batch of individuals that represents the actual amount of population (Sekaran & Bougie, 2019, 221). The sample characteristics are expected to be representative for the research validity (Sugiyono, 2022). The population and the sample determination for this research will be explained further in the next sub chapter.

3.4.1 Population

Indonesia is dominated by Generation Z calculated by Statistics Indonesia (Badan Pusat Statistik) as 27,94% (around 74,93 million) of the total number of Indonesian citizens (Katadata, 2021). Responding to the occurrence, the chairman of the Ministry of Justice and Human Rights (Kementerian Hukum dan HAM) predicts the next generation must be well-prepared and renew skills to compete in the future. Because years ahead, the increasing population leads to fierce competition (Kompas.id, 2022). On the contrary, several research has proven that generation z are prone to having low commitment at work due to lack of work experience. They set different expectations for the workplace itself; ideal work-hours and leaders. It will lead to low commitment if the reality does not exceed the reality (Schroth, 2022).

It has been proved by Dixit & Bhati (2012) that employee commitment has a significant relationship to each one's productivity. Likewise as research conducted by Đorđević et. al (2020) that declared that employee commitment could raise organization's productivity. Therefore, researcher will take the highest productivity region for the research population. DKI Jakarta province has the highest productivity manpower level in Indonesia that reached out to 400,7 million people recorded by Indonesian Ministry of Labour (Kementerian Ketenagakerjaan) (Katadata, 2023).

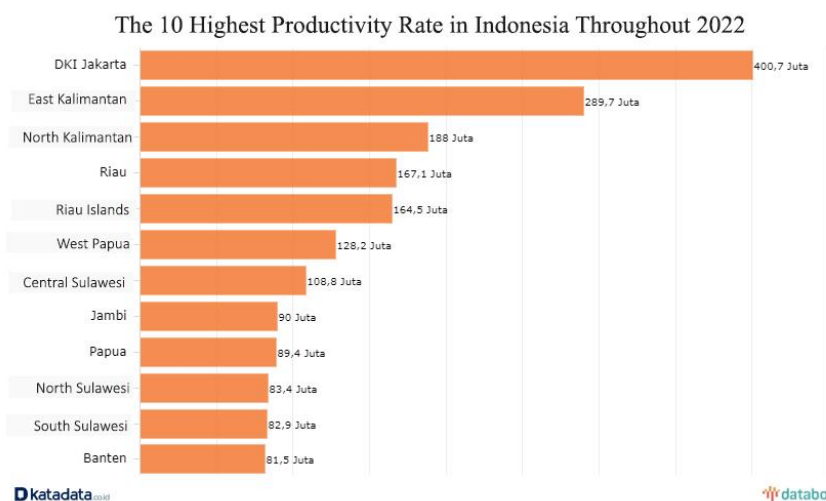


Figure 3.1 Indonesia's Productivity Throughout 2022 Based on Provinces
(Source : KataData, 2023, edited bu researcher)

3.4.2 Sample

According to Sugiyono (2022) the sampling techniques are needed after the representative samples are determined. The sampling techniques are divided into 2

types: probability sampling and non probability sampling. Probability sampling is the technique with a goal of concluding the research from the population. The individuals from the population are known for being prospects as sample subjects. Whereas the non-probability sampling techniques are conducted to a certain population. The individuals are not informed as part of research samples (Sekaran & Bougie, 2019, p.226). Probability sampling techniques could be done by

- Unrestricted or Simple Random Sampling: taking a group of samples randomly without notice of any circumstances in the population.
- Restricted or Complex Probability Sampling: the technique is used if the population has various circumstances proportionally in a group of people or components. Consists of five design of methods that applicable to outgrow the cumbersome of unrestricted sampling:
 - Systematic sampling: A sampling approach based on probability where the sample is obtained by selecting every n th element from the entire population.
 - Stratified random sampling: A probability-based sampling method that begins by categorizing the population into distinct and unrelated groups, and subsequently selects individuals randomly from each of these groupings.
 - Cluster sampling: A probability-based sampling approach where the sample consists of clusters or segments of elements, characterized by diversity within each cluster and similarity between different clusters.

- Area sampling: A sampling method based on probability that involves creating groups or segments of elements in the sample, where there is variation within each group but similarity between different groups.
- Double sampling: A probability-based sampling strategy that entails gathering data from a group of participants on two occasions, like initially gathering preliminary data from a sample and subsequently using a smaller subset of the initial sample for more extensive data collection.

As mentioned before, the non probability sampling technique will involve samples who don't know if they will be chosen. This method is considered more dependable than the other methods. The method's design divided in two; convenience sampling and purposive sampling that will discussed as per point below:

- Convenience sampling: The involvement of the samples data and information will be gathered due to conveniently accessible information from researchers.
- Purposive sampling: The involvement of samples data is detailed and specified criteria. The sample criteria are being picked based on the rational data in the field. Purposive sampling has two major types;

- Judgment sampling: The non-probability sampling technique that gathered data in specified samples based on their experiences because they expected to be expert in their field, and usually in limited numbers.

- Quota sampling: Non probability sampling techniques that involve the specified samples until it reaches the targeted amount.

This research uses non-probability sampling techniques and using purposive sampling method due to researcher intention to transmit the survey publicly without knowing the amount of generation z creative workers in Indonesia. Therefore, the researcher applied several provisions for the sample to attain the research questions and objectives in order to avoid the biases regarding limited knowledge of the exact sample amounts. Data is gained through questionnaires, and its distribution implemented in two ways. Firstly, by spreading a broadcast message through social media platforms which contains the respondents ideal conditions and questionnaire link. Whatsapp, Instagram, and LinkedIn are the social media platforms that authors used for distribution. The author also visited several art events and asked the participants to fill out the questionnaire through the link provided.

The determination of sample number for this research is based on Hair et al (2021) formulation called the “10 Times Rule”. The minimum sample is dependent on the amount of arrows that point to independent variables and multiplied by 10 times. There are 3 total dependent variables pointed to 1 independent variable, therefore the minimum sample respondents in this research are 30 samples.

3.5 Variable Operationalization

The breaking point of constructing the research instruments is the perseverance of the research variables that are further to be tested. The operational definitions are given from the variables and indicators will be identified as a measurement. From the indicators will be generated to questions or statements. This research is using the statements based on previous research by Park et al, (2021) regarding Affective Organizational Commitment (AOC), Transformational Leadership (TL), and Employee Engagement (EE). Each dimensions, indicators, and the other information are provided in table down below.

Table 3.1 Table of Variable Operationalization

No	Variable and Definition	Dimensions	Indicator	Code	Measurement Scale & Instrument References
1	<u>Transformational Leadership</u> : Leader who inspires and encourages employees to be more creative in order to attain overall organization success.	Individual Consideration	Spends time teaching and coaching	TL1	<u>Measurement using Likert Scale</u> 1; strongly disagree - 5; strongly agree <u>Instrument References:</u> Bass & Avolio (2004) using MLQ questionnaire as in Park et al., (2021)
		Inspirational Motivation	Helps me to develop my strengths	TL2	
		Idealized Behaviors	Talks enthusiastically about what needs to be accomplished	TL3	
			Considers the moral and ethical consequences of decisions	TL4	

			Emphasizes the importance of having a collective sense of mission	TL5
		Intellectual Stimulation	Suggests new ways of looking at how to complete assignments	TL6
2	<p><u>Work-Life Balance:</u> Employees' feelings regard the ability to maintain balance between work and their personal life by managing various external pressures. Because in this Industry 4.0 era, employees determine the concept of work-life balance itself.</p>	Manager work-life balance support	My company facilitates work-life balance	WLB1
			My manager applied work-life balance in team	WLB2
		Employee work life balance	I never take the overtime because i could handle the tasks in work-hour	WLB3
			I still have quality time for myself (me-time)	WLB4
			I have enough time for my family and friends	WLB5
			I appreciate the social benefit	WLB6
<p><u>Measurement using Likert Scale</u> 1; strongly disagree - 5; strongly agree</p> <p><u>Instrument References:</u> The indicators are formulated by Meyer (2005) and modified by Mas-Machuca (2014) as in Park et al., (2021). Researcher added the 2 last indicators based on the Quiet quitting phenomenon.</p>				

			that company provides.		
		Work life balance for mental health (addition from researcher regarding quiet quitting phenomenon)	I applied work-life balance concept for my mental health	WLB7	
3	<u>Employee engagement:</u> Refers to someone's feelings absorbing and showing the desired qualities when in the workplace that generate correlation between work and colleagues. Engaged employees will arise as a result of the working conditions they are in.	Alignment	When I am at work, I pay great attention to my job.	EE1	<u>Measurement using Likert Scale</u> 1; strongly disagree - 5; strongly agree
			I am highly focused on accomplishing or completing tasks to achieve planned outcomes.	EE2	<u>Instrument References:</u> The indicators are formulated by Shrotryia & Dhanda (2019) to assess the content validity of employee engagement based on structural interviews with 15 India's best firm Human Resource Development (HRD). There are dimensions of alignment, affection and action oriented.
		Affective	I experience a strong sense of attachment to my work	EE3	
			I care about the future of my company.	EE4	

UNIVERSITAS
MULTIMEDIA
NUSANTARA

4	<u>Affective Employee Commitment:</u> Employees willingness to bond psychologically with dedication and responsibility for an exact target	I would be extremely happy to spend the rest of my career within this company. I take pride in my company among people outside of my organization. This company holds significant personal meaning for me.	AOC1 AOC2 AOC3	<u>Measurement using Likert Scale</u> 1; strongly disagree - 5; strongly agree <u>Instrument</u> <u>References:</u> The indicators are formulated by Allen & Meyer (1990) as used in previous research by Park et al., (2021)
---	---	--	------------------------------	--

According to Sugiyono (2022), data are divided into two types regarding to its scale. Nominal data is a type of categorical data that represents variables with discrete and non-ordered categories or groups. In nominal data, the categories are mutually exclusive and there is no inherent order or hierarchy among them. The second is ordinal data, the type of assessment that using the interval scale such as Likert scale. Likert scale is common measurement that used in quantitative research in order to measure attitude, opinion and someone's perception. This research using both the ordinal and nominal data. The nominal data is used for each respondent information such gender, age, work-role, domicile, requirement to work from office in a week. The ordinal data is used for capturing someone's perception regarding

the variables such work life balance, transformational leadership, employee engagement and affective organizational commitment.

3.6 Data Collecting Technique

According to Sugiyono (2022) data collecting techniques could be done by observation, questionnaire, and interview. This research is following all of the data collection based on the literature provided starting from conducting the structured observation as research problem formulation in the introduction chapter. Afterwards, the researcher gathered the literature regarding the variables that related to the research problem and the research topic. The observation in this research is deliberate as participant observation; the researcher appoints generation z who work in creative industries due to the researcher's experience and workfield.

The second step of this research is gathering the data and conducting the interviews with the 3 samples of generation z creative workers, and 3 samples of generation z employers who work in creative industries; as a preliminary research regarding the quiet quitting phenomenon in Indonesia, especially in Jakarta region. The structured interview was conducted regarding the current behavior of the newest generation in the workforce and correlated it with the phenomenon. The interviews assigned in the previous chapter as complementary data for the researcher to build the theoretical framework.

The third chapter of data collection is distributing surveys to test the hypotheses in the built theoretical framework. The survey will be extended to generation z creative workers randomly, in order to gather data regarding the variables that play an important role in the quit quitting phenomenon such AOC, EE, TL and WLB. The surveys using Likert scale are commonly used for social phenomenon and state of mind measurement. The scale resides from scale 1 which states strongly disagree until scale 5 which states strongly agree. Though the several statements from the survey use reverse Likert scale. After collecting data and run the statistical results in SmartPLS, confirmatory interview will be conducted to gain insights outside data and questionnaires.

For the sample, using Cohen's power table (Cohen, 1992; as cited in Hair et al., 2021) examined by the most amount of arrow points dependent variable, its significance, and its minimum R^2 value. Based on the conceptual framework, there are total three arrows points to the dependent variable. Afterwards, researcher determine the significance level in 5% and set the minimum R^2 value at 0.10. Therefore, the minimum sample for this research is 103 samples.

Exhibit 1.7 Sample Size Recommendation in PLS-SEM for a Statistical Power of 80%

Maximum Number of Arrows Pointing at a Construct (Number of Independent Variables)	Significance Level											
	10%				5%				1%			
	Minimum R ²				Minimum R ²				Minimum R ²			
	0.10	0.25	0.50	0.75	0.10	0.25	0.50	0.75	0.10	0.25	0.50	0.75
2	72	26	11	7	90	33	14	8	130	47	19	10
3	83	30	13	8	103	37	16	9	145	53	22	12
4	92	34	15	9	113	41	18	11	158	58	24	14
5	99	37	17	10	122	45	20	12	169	62	26	15
6	106	40	18	12	130	48	21	13	179	66	28	16
7	112	42	20	13	137	51	23	14	188	69	30	18
8	118	45	21	14	144	54	24	15	196	73	32	19
9	124	47	22	15	150	56	26	16	204	76	34	20
10	129	49	24	16	156	59	27	18	212	79	35	21

Source: Cohen (1992); A Power Primer. Psychological Bulletin 112: 155-159.

Figure 3.2 Sample determination based on Cohen's Power Table (Source : Cohen, 1992; as cited in Hair et al., 2021)

Before attaining the certain number of samples that have already been determined, pretests are organized to 30 samples as minimum samples referring to the 10 Times Rule (Barclay, Higgins, & Thompson, 1995; as cited in Hair et al., 2021) by multiplying 10 to the most amount arrows point dependent variable. However, the researcher adds 10 more samples become 40 respondents to exceed the minimum amount for pre-test. Afterwards, the variables will be tested using SmartPLS regarding its structural. The weighting respondents for pre-test will be applied based on the five regions in DKI Jakarta city; West Jakarta, North Jakarta, Central Jakarta, South Jakarta, and East Jakarta. Therefore, each region will take 8 respondents for pre-test.

The last step is conducting confirmatory interview due to gain more insights outside the results from the tests.

3.7 Data Analysis Technique

Statistical analysis has been known as fundamental for social science research. There are three main statistical analyses based on the variables deliberation; univariate, bivariate and multivariate. This research using multivariate analysis due to multiple variables involved. Variables in multivariate analysis correlate with events, individuals, activities and so on. Measurement in multivariate analysis obtained from data from surveys or primary data but may also consist from secondary databases. (Hair et al., 2021).

Multivariate analysis in this research is using quantitative methods, examining the established theory with the current phenomenon by hypotheses. Therefore, confirmatory factor analysis is used in this research by applied Structural Equation Modeling (SEM) as the main method (Hair et al., 2021). SEM has the capability to estimate the complex relationship between multiple independent and dependent variables by embedding variable indicators then responsibly measuring either the accuracy or error in each observed variable. This makes the SEM method acquire the most precise measurement for academic concepts (Cole & Preacher, 2014; Hair et. al., 2021). Partial Least Squares (PLS) SEM will be used in this research due to its ability to explain variance in the model 's dependent variable and known as causal-predictive approach to SEM. Besides, PLS SEM could associate small size samples with the complex model and operate the formative and reflective measurement efficiently (Hair et al., 2021).

Data analysis will be conducted if the researcher already gathered enough data from respondents and the secondary data. The data analysis in quantitative research commonly used statistics, whether using descriptive or inferential (Sugiyono,2022).

3.7.1 Measurement Model Analysis

The PLS model will be assessed to gain the quality of its results. The objective of measurement model analysis is to review the relevant measurement model evaluation criteria and gain the appropriate results of the report (Hair et al., 2021). The PLS model focuses on the outcomes from its assessment through Confirmatory Composite Analysis (CCA) to validate the quality of a composite measurement based on the series of evaluations employed to confirm the accuracy of a composite measurement of an abstract concept under study. Assorted variables specifically measure the construct of the PLS model. The CCA will going through 2 steps which are reflective measurement model and structural model test (inner model). Each step consists several criterions that must be fulfilled as outlined in figure down below.

Step 1: Reflective Measurement Model	Step 2: Structural Model Test
<ul style="list-style-type: none"> • Indicator reliability (value must be range from 0.4 – > 0.7) 	<ul style="list-style-type: none"> • Collinearity (using VIF) • Significance and relevance (path coefficient)

<ul style="list-style-type: none"> • Internal consistency reliability (Cronbach's alpha Composite Reliability, Reliability Coefficient) • Convergent validity (using Average Variance Extracted/AVE) • Discriminant validity (HTMT) 	<ul style="list-style-type: none"> • Explanatory power (R^2 and f^2)
--	---

Figure 3.3 Systematic Evaluation of PLS-SEM Results
(Source : Hair et. al., 2021) edited by author

The reflective measurements involving outer models will be analyzed in reliability, internal consistency, convergent validity (Average Variance Extracted/AVE), and discriminant validity. The next step will be conducting the structural model to assess the collinearity, significance and relevance, also explanatory power or coefficient of determination.

3.7.1.1 Reflective Measurement Model

The reflective measurement models are used to represent the relationship between observed indicators (measured variables) and underlying latent constructs (the unobserved theoretical concept). According to Hair et al., (2021) the evaluation of reflective measurement models involves two key aspects: assessing the reliability of measures at both the indicator and construct levels (internal consistency reliability), and examining the validity through two types of assessments. The validity assessment will pass through 2 steps. The first step is measuring the convergent validity using the average variance extracted (AVE) for each measure.

The second type, discriminant validity, involves comparing all construct measures in the same model based on the heterotrait-monotrait (HTMT) ratio of correlations.

1. Reliability Test

According to Hair et al. (2021), the initial step in measuring the indicators resulting from a questionnaire is to calculate the outer loading of an indicator. This is done to assess the accuracy and reliability of an indicator within a construct under investigation. Indicator reliability is a fundamental step as it can influence the quality of the research construct. Hair et al. (2021) established that reliable indicator has outer loadings value from 0.40 to 0.70. However, values above 0.70 are considered ideal for indicator reliability.

Internal consistency reliability is established to measure the consistency and stability of each indicator variable (Sekaran & Bougie, 2019). Cronbach alpha (α), is commonly used to determine the items will be related to each other. Composite reliability (ρ_C) test counts in the reliability text in order to measure the internal consistency reliability that doesn't assume equal indicator loadings from Cronbach's alpha. Reliability coefficient (ρ_A) is the combination from Cronbach's alpha and Composite reliability (ρ_C), it helps depicts the accuracy in construct in the measurement. (Hair et al. (2021) asserted that all internal consistency reliability aspects holds values ranging from 0.60 to 0.70 that are acceptable for quantitative research that combines the fundamental theories with the current phenomenon. Values above 0.95 considered as redundant because it considered rephrasing the same question

2. Validity Test

Based on method conducted by Hair et al. (2021), validity measurement will be done through the convergent validity and discriminant validity. Convergent validity is a concept in research that refer to the extent to which several measurements or indicators intended to assess the same construct in a study yield congruent or positively correlated results with each other. It reflects the degree to which diverse measurements can achieve similarity in measuring the same construct. Convergent validity could be measured by assessing Average Variance Extracted (AVE) in Smart-PLS. It is a rate of a latent construct that explains the variance of its indicators, and considered equivalent to communality or indicator reliability on a construct. AVE value applications has a similar rationale to indicator reliability, value that higher than 0.5 indicates that the construct describes more than partial of the indicators.

The second step from Hair et al., (2021), discriminant validity is a where construct has the differentiation to others. The purpose of discriminant validity is to assess the degree to which different constructs or theoretical concepts are distinct from one another in a research study. It guides to determine whether the measurement instruments and indicators effectively differentiate between various constructs, ensuring that each construct is unique and not confused with others. Discriminant validity could be measured through cross loadings, Fornell-Larcker criterion, and Heterotrait-Monotrait (HTMT) metrics.

Each techniques holds critical value in order to determine each indicator's validity. The outer loadings assessment holds 0.5 as its minimum value. The Fornell-Larcker value criterion is the relation of one construct itself must be higher than correlation with other construct. HTMT critical value ranged in 0.85 - 0.90 are filled the criteria for discriminant validity. Hair et al., (2021) recommends using the bootstrapping technique to assess more accurate HTMT value, when the expected samples are reached.

3.7.1.2 Structural Model Test (Inner Model)

Model Structural Test from the research is persisting the analysis and determining the relationship between the variables and the model construct. The model construct assessment enables to determine the potential from the model to analyze one or another target construct. Based on Hair et al., (2021) the structural test will be conduct and reviewed through collinearity, significance and relevance, and the explanatory power.

1. Collinearity (VIF)

Collinearity test is a statistical method used to evaluate the level of correlation between two or more independent variables in regression analysis. Multicollinearity occurs when there is a high correlation between independent variables in a regression model, which can lead to several issues, including difficulties in assessing the relative contributions of each variable to the dependent variable. (Hair et al., 2021)

In the context of multicollinearity testing, the primary focus is on the Variance Inflation Factor (VIF) for each independent variable. High VIF values indicate a high level of multicollinearity. Based on Hair et al., (2021) VIF that higher than 5 deliberated have collinearity issues amidst the indicators of formatively measured constructs. The ideal value for collinearity is 3 and lower, though the value between 3 and 5 is still included in the expected VIF value.

2. Significance and relevance test (path coefficient)

According to Hair et al., (2021), significance and relevance test is to determine the outer weights in formative indicators. The objective from both tests is to figure out the contribution of outer weights to formative indicators. The bootstrapping procedure will be needed to run the test. Bootstrapping is a statistical method used to evaluate the sample distribution of a statistic by repeatedly sampling with replacement from the available data. This means that each observation in the original data can appear more than once or not at all in each bootstrapped sample. The bootstrapping procedure furnishes the standard deviation of an estimated coefficient (such as the weight of an indicator), forming the foundation for establishing the empirical P value and its associated T value.

P value helps determine the probability of obtaining the observed results (or more extreme) if the none significance statistic in the research; or null hypothesis is true. If the p-value is below a predetermined significance level, it suggests

evidence against the null hypothesis, and you may reject the null hypothesis. The limitation significance level of p value divided in three categories as follows:

- P value below the significance level 1% (0.01) is the most strict in testing relationships in order to test the experiments.
- P value below the significance level 5% (0.05) is commonly used in explanatory research
- P value below the significance level 10% (0.10) suitable for exploratory research, has the least restrictions.

T value conducted by examining the hypothesis test partially regarding to figure the effect from independent variable to the dependent variable. Typical critical t values are categorized as follows:

- T value 1.65 for significance level of 1%
- T value 1.96 for significance level of 5%
- T value 2.57 for significance level of 10%

3. Explanatory Power

Explanatory power structural test is to figure out its eligibility from the path model, by assessing the causal relationships between variables. Hair et al., (2021) declares that the most common metrics that are used in the test is using R^2 . It, also known as the coefficient of determination, illustrates the extent to which dependent data can be explained by independent data. R^2 ranges between

0 and 1, with the understanding that approaching the value of one signifies a stronger explanatory fit. The R^2 has a critical value in each interval category on its strength; 0.1 considered as weak, 0.65 considered as moderate and above 0.65 considered as strong. However, if R^2 value exceeds 0.90 it is considered model overfits condition; where the structural model fits the used data but declines to generalize significantly to different datasets.

Effect size (f^2) analysis is the next step to evaluate the relative contribution from independent variables to the dependent variables in a structural model. The bigger value from causal relationship between the variables, the more significant effect size could gain. f^2 also calculate the variations from dependent variable, when the independent variable effectively explains the variation in the dependent variable, the effect of that independent variable on the dependent variable could be greater. The f^2 value ranges in three categories; 0.02 indicates weak effects, 0,15 indicates medium effects and 0.35 indicates large effects. (Hair et al., 2021)

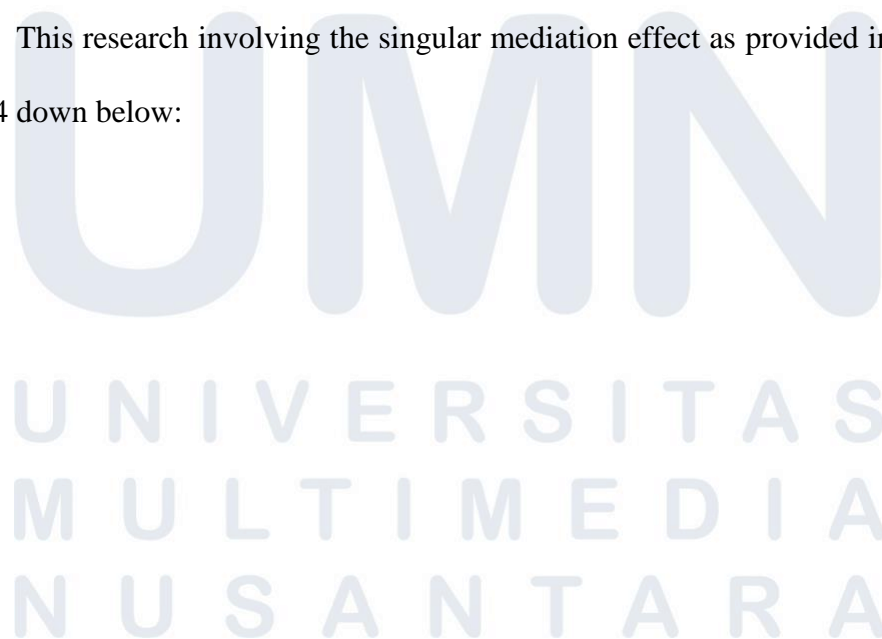
3.7.1.3 Mediation Analysis

Mediation occurs when a variable intervenes the relationship between independent and dependent variables. The intervening variable could determine the conversion of an outcome of exogenous and endogenous construct in PLS path model (Hair et al., 2021). The mediation analysis could be assessed if the construct is already passing the reflective and formative measurement models.

According to findings from Zhao, Lynch and Chen in 2010 that cited in Hair et al., (2021), the mediating effect is categorized in five statuses as follows:

- Direct only, non mediation: the variable has significant direct effect but doesn't have indirect effect is detected.
- No-effect mediation: the variable has no significant direct or non-direct effect.
- Complementary/partial mediation: the variable has both direct and indirect effects, pointing in the same direction.
- Competitive/suppressor mediation: the variable has both the indirect effect and direct effect but in the opposite direction.
- Indirect-only/full mediation: the variable relationship has significant indirect effect but not for direct effect.

This research involving the singular mediation effect as provided in figure 3.4 down below:



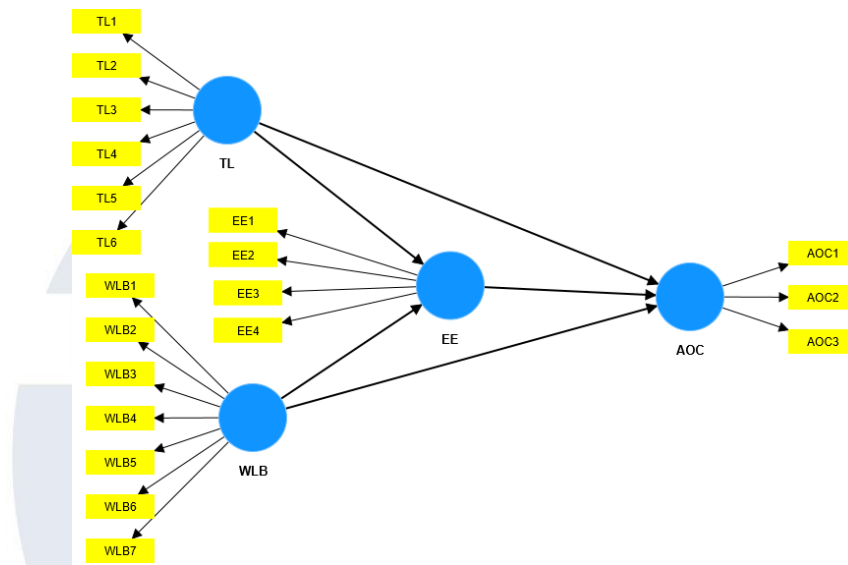


Figure 3.4 Research Model depicted with SmartPLS 4
(Source: Author)