

## Non recursive model of consumer satisfaction and trust

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### ABSTRACT

This study was designed to identify and analyze the effect of perceived value, differentiation, and emotional branding on customer satisfaction and trust; non-recursive influence between customer satisfaction and customer trust of the vivo smartphone in Medan. Respondents consist of adults who use vivo smartphones domiciled in Medan. The analysis technique uses a structural equation model with the robust maximum likelihood method. Data processing is assisted by Lisrel software and the results indicate in case the direct effect coefficient of the same latent variable is positive in the non-recursive and recursive models, the coefficient will be higher in the recursive model. Therefore, it is important for vivo smartphone management to verify first, whether the relationship between customer satisfaction and trust is reciprocal. In case it is one way, where satisfaction affects customer trust, then the strategy or program of increasing perceived value and differentiation directly at customer satisfaction is more optimal. Furthermore, it will have an impact on customer trust since the satisfaction mediating effect is higher than the customer trust mediating effect in the recursive model. The program of increasing consumer trust with emotional branding through customer satisfaction is good, since the mediation of satisfaction is significant in both non-recursive and recursive contexts.

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## 1. Introduction

Smartphones are one of the technologies that are widely used all over the world and they allow users not only to make phone calls, but also to carry out multiple tasks (Liu & Yu, 2017; Kim et al., 2016). The world's largest smartphone market share in Q1 2020 was owned by Samsung, second place belonged to Huawei, and Vivo owned the fifth position (Dwi Bambang, 2020). Still according to the same source, in Q2 2020, Vivo ranks first in the market share in Indonesia. A preliminary survey of 143 smartphone users spread across Medan, the third largest city in Indonesia in May 2020, showed: 27.97% of Oppo smartphone users, 20.98% using Vivo, and 17.48% Samsung users. Samsung received the highest customer trust (39.16%), following Oppo in second place (27.97%) and Vivo in third place (15.38%). Oppo turned out to be the most satisfying in terms of users (29.37%); The second place belongs to the Samsung brand (28.67%) and the third place is occupied by Vivo (17.48%). This study result will be useful for the management of Vivo smartphones in Medan in the formulation of marketing strategies and programs in an effort to satisfy consumers and increase customer trust. Researchers and academics can use the results of this study as scientific references related to consumer behavior. Many authors discuss consumer satisfaction as a dependent variable (Zhong & Moon, 2020; Samudro et al., 2020; Mbango, 2019; Dawi et al., 2018; Johanis et al., 2017; Kumar, 2017; Demirgüneş, 2015; Setiowati & Putri, 2012). Likewise customer trust as the endogenous variable (Kungumapriya &

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Malarmathi, 2018; Alamsyah et al., 2017; Ziaullah et al., 2014; Mosavi & Ghaedi, 2012; Alwi et al., 2010). However, rarely did researchers discuss the reciprocal relationship between customer satisfaction and customer trust. This discussion is a concern in this study in addition to its causal relationship with other exogenous variables. In his research by Julian et al. (2015), there is an effect of trust on cumulative satisfaction. Research conducted by Permana et al. (2020), customer trust has no effect on consumer satisfaction. Furthermore, perceived or customer value has an effect on consumer satisfaction, not on customer trust. The main findings of Chung et al. (2015) show that the positive linkage between satisfaction, brand trust, and brand loyalty in the mobile phone users is substantiated. Customer trust is influenced by customer satisfaction which proves that customer satisfaction is an antecedent of customer trust (Leninkumar, 2017). Satisfaction has an effect on trust in vendors involved in mobile commerce (Suki, 2011). Positive customer-experience emotions-encompassed in a feeling of trust were the biggest drivers of satisfaction (Pulido & Stone, 2014). Unlike Lehinkumar, here trust drives satisfaction. Trust is an antecedent of customer satisfaction. Trust has an immediate effect on customer satisfaction (Asiati et al., 2019; Hayati, 2011). Perceived sacrifices have a negative impact on customer satisfaction (Mosavi & Ghaedi, 2012). Customer value is antecedent to customer satisfaction (Wahyuningsih, 2005). Research results showed customer satisfaction partially mediates perceived value on brand trust (Prameka et al., 2016). In research by Chen and Lee (2014), affective and cognitive trust were perceived value antecedent. Differentiation of services has no significant effect on customer satisfaction. Product differentiation strategy refers to companies providing products of different or superior quality to increase consumer satisfaction and loyalty, and hence, the company's performance and profitability (Ju et al., 2017). Research conducted by Qayyum (2017), states that customer value and customer satisfaction are determinants of differentiation. Different industries have higher levels of aggregate performance and hence consumer satisfaction (Fornell & Johnson, 1993). The emotional linkages between consumers and the brand result in increased customer satisfaction (Rahmawati et al., 2019; Bagozzi et al., 1999). The study includes that emotional branding, customer value and brand image simultaneously or partially affect the dependent variable of customer satisfaction (Gunung Setiadi et al., 2015). Negative emotion has no effect on trust; Positive emotion that effects on trust (Chaparro-Peláez et al., 2015).

## **2. Literature Review**

### *2.1 Perceived Value*

Perceived value is the customer's preference between goods that offer more value, which is the sum of the goods' benefits, both innocent and elusive, and the cost (Kotler & Keller, 2016). Customer Value is the perception of the value of a product or service to customers versus possible alternatives. Worth means whether the Customer feels the benefits and services for what he paid (Gautam, 2016). Perceived value is a consumer's assessment of the benefits of a product based on perceptions of what is received and what is sacrificed (Parasuraman et al., 1988). Perceived value is the benefit that consumers feel or receive from product attributes as payoff for sacrifice in money, goods or any other monetary exchanges. Associated with the hospital (Chahal & Kumari, 2012), Consumer Perceived Value is a multidimensional construct consisting of six important dimensions; namely transaction value, efficiency value, aesthetic value, social interaction value, self-satisfaction value, and acquisition value. The perceived value at retailers includes usability, ease of use and enjoyment (Childers et al., 2001). Customer value in e-commerce includes process value, yield value, and shopping enjoyment (Xu & Cai, 2004). Four distinct value dimensions emerge called emotional, social, quality / performance and price / value for money (Sweeney & Soutar, 2001). Researchers describe the perceived value in this study including: usefulness, ease of use, enjoyment, emotional, and social.

### *2.2 Differentiation*

Product differentiation is a marketing strategy that seeks to differentiate a company's products from competitors (Kopp & Margaret, 2020). Differentiation is creating a series of meaningful differences that make the company's offering different from its competitors (Kotler & Keller, 2012). Differentiate is to create a benefit that the customer perceives as being of great value to them than they can get elsewhere (Chandra, 2008). Differentiation is the creation of different or better product attributes or features from competitors so that consumers are more interested. Operationalization of differentiation latent variables in research (Zuliarni, 2019) includes content differentiation, context differentiation, and infrastructure differentiation. In his research (Davicik & Sharma, 2015) there are three aspects in differentiation, namely technological innovation in characteristics, performance, and price. Another expert said that product differentiation is reflected by product innovation, product design, higher product quality, and unique products (Dirisu et al., 2013). In this study, the indicators of differentiation are: technological innovation in smartphone characteristics, performance, price, and product design.

### *2.3 Emotional Branding*

Emotional branding is the involvement of consumers in deep, long-term, and intimate emotional relationships with brands, which go beyond benefit-based satisfaction, and those that create specific trust-based relationships for the development of a holistic emotional experience (Morrison & Crane, 2007). Emotional branding is the development of a brand that draws directly on the emotions, needs, and ambitions of consumers (McGrath, 2018). Emotional branding focuses on the significance of brands that interact with consumers' lives and inspire their desires, life stories, memories, and experiences (Thompson et al., 2006). Emotional branding is the development of a brand to attract consumer emotions. Emotional branding is based on four important aspects: relationships, sensory experiences, imagination and vision (Gobe, 2010). Antecedent of emotional branding

covered emotional attachments such as affection, connection and passion (Maheswari, 2008). Emotional branding indicators in this study consist of relationships, sensorial experiences, imagination, and affection.

#### 2.4 Consumer Satisfaction

Consumers satisfaction is determined by the obtained results relative to the expectations (Lee et al., 2014). The positive attitude of consumers that develops as a result of evaluating their consumption experience with a particular product is called satisfaction (Erciş et al., 2012). Customer satisfaction is a feeling of pleasure or disappointment someone who arises because of comparing the perceived real performance of the product, compared to customer expectations before the use of the product (Kotler, 2009). Customer satisfaction is the result of an assessment or evaluation of the realization referring to a predetermined standard. So, every consumer has expectations of the product attributes before consuming or using it. If the expectations for the product attributes are met, they are satisfied. On the contrary, they were not satisfied. Product attribute is a component which is the product characteristics that ensure that the product can meet the needs and desires applied by the buyer (Kotler, 2009). Furthermore, product attributes include product quality, product features, product style and design (Kotler, 2012). A smartphone must have features consist of: A long-lasting battery, Warp-speed processing, Crystal-clear display, A great camera, NFC, Multiple windows, Plenty of storage space, Infrared remote control, Fingerprint sensor, Wireless charging (Komando, 2013). The realization of consumer expectations for product attributes shows the level of satisfaction with the Vivo smartphone. Indicators of satisfaction in this study are quality, features, and vivo smartphone design.

#### 2.5 Customer Trust

Customer trust is thoughts, feelings, emotions, or behavior that manifest when customers feel that a provider can be counted on to act in their best interest when they give up direct control (Patrick, 2002). Trust is conceptualized in literature as the willingness to rely on an exchange partner in whom one has confidence (Kwon & Suh, 2005). Customer trust is the thought or feeling that the company or product is superior in meeting their needs and wants. There are three major aspects of customer trust which include perceived credibility, perceived integrity, and perceived benevolence (Swaen & Chumpitaz, 2008). Factors of trustworthiness include ability, benevolence, integrity, trust propensity (Colquitt et al., 2007). Trust in this research includes ability, benevolence, and integrity.

### 3. Research Framework and Hypothesis

#### 3.1. Research Framework

The structural model of this study refers to the non-recursive model (Bagozzi, 1980). In this study, there is a relationship between customer satisfaction and customer trust. Besides the reciprocal relationship between customer satisfaction and trust, the confirmation also concerns the causal relationship of exogenous and endogenous latent variables. The causal relationship between the following variables in the context of a recursive model is needed to be compared with a non-recursive model. Authors have examined the effect of perceived value on consumer satisfaction. Some of them have a positive effect (Zhong & Moon, 2020; Mbango, 2019; Johanis et al., 2017; Kumar, 2017; Koupai et al., 2015; Setiowati & Putri, 2012; Wahyuningsih, 2005). Perceived value may also have an effect on brand trust (Nurmartiani, 2019; Latifah, 2018; Kungumapriya & Malarmathi, 2018; Prameka et al., 2016; Shirin & Puth, 2011). Customer satisfaction is a great point of differentiation (Collomb, 2018; Copley, 2017). Large portion of variance in customer satisfaction across industries can be explained by the impact of differentiation in Sweden (Fornell & Johnson, 1993). The results reveal that there were three independent variables, namely content differentiation, context differentiation and infrastructure differentiation partially and simultaneously have significant and positive effects on customer satisfaction (Zuliarni, 2019). Differentiation of Samsung smartphone products has an effect on consumer satisfaction in the city of Makassar (Reski, 2016). Product differentiation may also have an effect on trust (Hidayatulloh, 2014; Irawan, 2014). 360 students who use Samsung mobile devices, and based on the values is detected that Self-control and Emotionality have positive relationships with Brand Love (Irissappane & Shankardevi, 2015). Emotional consistency is one of the three Cs of customer satisfaction (Pulido & Stone, 2014). The results of the study (Setiadi et al., 2015), show that emotional branding has an effect on customer satisfaction. Customer satisfaction may also influence on customer trust. There is a significant relationship among quality commitment, satisfaction, trust and customer retention (Lin & Wu, 2011). Customer Satisfaction has a significant effect toward Customer Trust (Setiawan et al., 2020; Fairina, 2018; Prameka et al., 2016; Rizan et al., 2015; Shirin & Puth, 2011). In other studies, customer trust has a significant effect on consumer satisfaction (Rahmawati et al., 2019; Indarto et al., 2018; Purnamasari, 2018; Hidayat et al., 2016; Bricci et al., 2016; Koupai et al., 2015; Tatuil, 2013). The framework of the research variables is presented in Fig. 1.

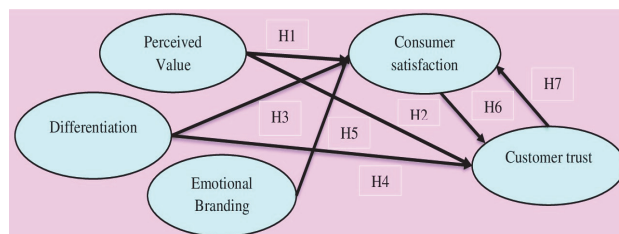


Fig. 1. Proposed Framework

### 3.2. Hypothesis

Referring to the problem, theory, and proposed framework, the researcher formulates the following hypothesis: H1: There is an effect of perceived value on consumer satisfaction; H2: There is an effect of perceived value on customer trust; H3: There is a differentiation effect on consumer satisfaction; H4: There is a differentiation effect on customer trust. H5: There is an effect of emotional branding on consumer satisfaction; H6: There is an effect of consumer satisfaction on customer trust; H7: There is an effect of customer trust on consumer satisfaction.

## 4. Research Method

The research structural model is built from 5 (five) measurement models, namely: Perceived value, differentiation, emotional branding, consumer satisfaction, and customer trust. Operationalization of variables produces 19 manifest variables. Furthermore, it is measured ordinally with a Likert scale of 1 - 7. The population includes all Medan people who use Vivo smartphones. The sample characteristics are Vivo smartphone users aged 16 - 64 years old, having their address in Medan. Number of samples would be determined based on the maximum likelihood method with the asymptotic covariance matrix, namely:  $n \geq \frac{1}{2}K(K + 1)$  where K is the number of manifest variables (Jöreskog, 2016). The sample in this study were 190 people. Primary data were collected through a questionnaire (google form). Questionnaires Submission was done accidentally. Structural equation model (SEM) robust maximum likelihood method is used in analyzing. The first step is to build the underlying theory; Test the convergence of the measurement model; Develop and test structural models; Modify the model; Discussion based on modified model.

## 5. Result

Referring to the analytical technique used, the results of the study were examined through measurement models and structural models (Byrne, 2001). The measurement model is the material for building a hybrid model. This paper only shows the complete non-recursive model, while its recursive model is examined separately.

### 5.1 Measurement Model

The measurement model fit can be checked through standardized loading factors for all indicators, composites reliability, and variance extract (Hair et al., 2010). Perceived value (VALUE) is reflected by the observed variables consist of usefulness (PV1), ease of use (PV2), enjoyment (PV3), emotional (PV4), and social (PV5). Standardized loading factors (SLF) for the mentioned variables are 0.75, 0.74, 0.89, 0.82, and 0.83, respectively. Differentiation (DIFF) is reflected in the manifest variables of technological innovation (DF1), performance (DF2), price (DF3), and product design (DF4) which have SLFs of 0.80, 0.83, 0.61, and 0.76, respectively. Emotional Branding (EMO) is reflected by the indicators of relationship (EB1), sensorial experiences (EB2), imagination (EB3), and affection (EB4) which have SLFs of 0.76, 0.86, 0.81, and 0.75, respectively. Consumer satisfaction (SATIS) is reflected by satisfaction with product quality (CS1), features (CS2), and design (CS3) respectively having SLFs of 0.79, 0.97, and 0.59. Customer trust (TRUST) is reflected by Ability (CT1), Benevolence (CT2), and Integrity (CT3) with SLF 0.82, 0.95, and 0.81, respectively. All indicators reflect their respective variables well, where  $SLF > 0.50$  (Hair et al., 2006). The research model consists of 5 measurement models, namely perceived value, differentiation, emotional branding, consumer satisfaction, and customer trust, with composite reliability of 0.90, 0.84, 0.86, 0.83, and 0.90, respectively. All variables have composite reliability  $> 0.70$ . Variance extracts the five variables, respectively 0.65, 0.59, 0.60, 0.63, and 0.74. All measurement models have a variance extract  $> 0.50$ . Composite reliability and variance extract are good (Bollen, 1989).

### 5.2 Structural Model

The structural model fit can be checked through the goodness of fit index, the coefficient of determination, and discriminant validity. The modified structural model path diagram is presented in Fig. 2. Its feasibility is indicated by the complete model Goodness of fit index (GOF). The eligibility measurement criteria are: Chi-Square Probability ( $\chi^2$ ), Goodness-of-fit Index (GFI), Root mean square error of approximation (RMSEA), Non-Normed Fit Index (NNFI), Normed Fit Index (NFI), Adjusted Goodness of Fit Index (AGFI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), Parsimonious Goodness of Fit (PGFI), Parsimonious Normed Fit Index (PNFI). The magnitude of the ten criteria are 0.60, 0.92, 0.00, 1.00, 0.99, 0.88, 1.00, 1.00, 0.59, and 0.70 respectively. These numbers indicate that the estimator's structural model is good (Hair et al., 2010; Wijanto, 2008). The path diagram of the model above in functional structural equation is presented as follows:

$$\text{SATIS} = 0.47 \times \text{TRUST} - 0.047 \times \text{VALUE} + 0.041 \times \text{DIFF} + 0.57 \times \text{EMO} \quad (1)$$

$$\text{TRUST} = 0.64 \times \text{SATIS} + 0.14 \times \text{VALUE} + 0.064 \times \text{DIFF} \quad (2)$$

R-Square for Eq. (1) is equal to 0.84 and R-square for Eq. (2) is equal to 0.56. The determinant coefficient  $> 0.33$  is significant (Chin, 1998). The correlation coefficient for the independent variable VALUE  $\leftrightarrow$  DIFF is 0.81, VALUE  $\leftrightarrow$  DIFF is 0.67, and DIFF  $\leftrightarrow$  EMO is 0.86. All exogeneous variables covariance  $< 0.90$ . It means that the discriminant validity is good. Besides, there are no indicators that cross into other variables, meaning that there is no cross loading (Waluyo, 2016).

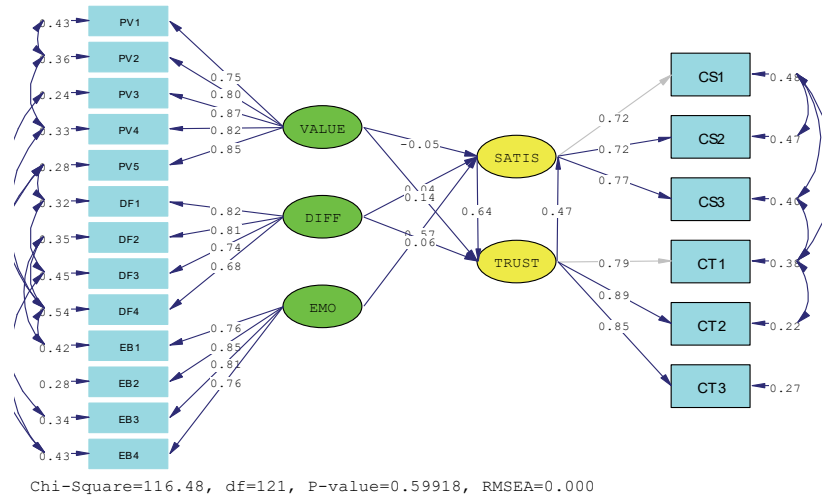


Fig. 2. Modified structural model's path diagram (standardized solution)

5.3 Direct Effect

The coefficient of direct causal relationship VALUE → SATIS is -0.05, standard deviation is 0.13, t-value is -0.37 < 1.96, which means it is not significant (H1 is rejected). See Table 1. The direct effect coefficient VALUE → TRUST is 0.14, the standard deviation is 0.11, the t-value is 1.24 < 1.96, which means it is not significant (H2 is rejected). DIFF → SATIS direct influence coefficient is 0.04, standard deviation is 0.21, t-value is 0.19 < 1.96, meaning it is not significant (H3 is rejected). The coefficient of direct causal relationship DIFF → TRUST is 0.06, standard deviation is 0.26, t-value is 0.25 < 1.96, meaning it is not significant (H4 is rejected). Coefficient direct effect of EMO → SATIS is 0.57, standard deviation is 0.25, t-value is 2.26 > 1.96, which means significant (H5 accepted). The direct effect coefficient of SATIS → TRUST is 0.64, the standard deviation is 0.24, the t-value is 2.62 > 1.96, which means significant (H6 accepted). The coefficient of direct causal relationship TRUST → SATIS is 0.47, standard deviation is 0.24, t-value is 1.95 < 1.96, which means it is not significant (H7 is rejected).

Table 1  
Direct Effect (Standardized)

Causal Relationship	Coefficient	Standard Deviation	t-value	Remark	Hypothesis
VALUE → SATIS	-0.05	0.13	-0.37	Not Significant	Rejected
VALUE → TRUST	0.14	0.11	1.24	Not Significant	Rejected
DIFF → SATIS	0.04	0.21	0.19	Not Significant	Rejected
DIFF → TRUST	0.06	0.26	0.25	Not Significant	Rejected
EMO → SATIS	0.57	0.25	2.26	Significant	Accepted
SATIS → TRUST	0.64	0.24	2.62	Significant	Accepted
TRUST → SATIS	0.47	0.24	1.95	Not Significant	Rejected

5.4 Indirect Effect

The indirect effect coefficient VALUE → SATIS → TRUST is 0.02, standard deviation is 0.09, t-value is 0.18 < 1.96, which means it is not significant. See table 2. The coefficient of indirect effect DIFF → SATIS → TRUST is 0.06, the standard deviation is 0.16, t-value amounting to 0.39 < 1.96, it means that it is not significant. The indirect effect coefficient of EMO → SATIS → TRUST is 0.52, the standard deviation is 0.19, the t-value is 2.71 > 1.96, which means it is significant. The indirect effect coefficient VALUE → TRUST → SATIS is 0.07, standard deviation is 0.08, t-value is 0.87 < 1.96, which means it is not significant. The indirect effect coefficient of DIFF → TRUST → SATIS is 0.06, the standard deviation is 0.12, the value is 0.50 < 1.96, which means it is not significant.

Table 2  
Standardized Indirect Effects

Causal Relationship	Coefficient	Standard Deviation	T-value	Remark
VALUE → SATIS → TRUST	0.02	0.09	0.18	Not Significant
DIFF → SATIS → TRUST	0.06	0.16	0.39	Not Significant
EMO → SATIS → TRUST	0.52	0.19	2.71	Significant
VALUE → TRUST → SATIS	0.07	0.08	0.87	Not Significant
DIFF → TRUST → SATIS	0.06	0.12	0.50	Not Significant

### 5.5 Total effect

The total effect is a combination of direct and indirect effects on a certain path. The total effect of VALUE → TRUST is 0.16. The total effect of DIFF → TRUST is 0.12. The total effect of EMO → TRUST is 0.52. The total effect of VALUE → SATIS is 0.02. The total effect of DIFF → SATIS is 0.10.

## 6. Discussion

### 6.1 The meaning of factor loading

Standardized loading factor (SLF) is the highest among the five indicators that reflect perceived value, namely enjoyment of 0.89. Consumers' perceptions of the enjoyment obtained from using the Vivo smartphone are dominant compared to the other four manifest variables. The dominant observed variable reflects differentiation, namely differentiation in the performance of smartphones with an SLF of 0.83. The most dominant indicator reflects emotional branding, namely sensorial experience. The emotion towards the Vivo brand that arises from the experience of seeing the brand, hearing the brand, and touching the brand has the greatest impact among the three other indicators. The highest indicator reflects consumer satisfaction, namely features. Satisfaction with the camera, screen, storage, and other features is dominant. Among the three manifest variables of customer trust, benevolence has the highest SLF. Care, empathy and acceptance of customers are the most important factors in maintaining or increasing their trust.

### 6.2 Direct Effect

Changes in the latent variable perceived value will have a direct impact on changes in consumer satisfaction in the opposite direction, although not significant. The change was positive for trust, although it was relatively small or insignificant. This fact occurs in models where there is a non-recursive influence between satisfaction and customer trust. If a recursive model is developed where the effect of customer satisfaction on customer trust is in a one-way path (SATIS → TRUST), the effect of perceived value on customer satisfaction or trust will be different. The direct effect and t-count on the non-recursive and recursive models with the same raw data, causal relationships, and variables are presented in Table 3.

**Table 3**

The difference of coefficients and t-count in non-recursive and recursive contexts

Causal Relationship	Coefficients		Difference	t-value		Difference
	Non Recursive	Recursive		Non Recursive	Recursive	
VALUE → SATIS	-0.05	0.02	0.07	-0.37	0.16	0.53
VALUE → TRUST	0.14	0.17	0.03	1.24	1.72	0.48
DIFF → SATIS	0.04	0.10	0.06	0.19	0.38	0.19
DIFF → TRUST	0.06	-0.15	0.21	0.25	-0.65	0.9
EMO → SATIS	0.57	0.78	0.21	2.26	3.89	1.63
SATIS → TRUST	0.64	0.89	0.25	2.62	3.43	0.81
TRUST → SATIS	0.47	-	-	1.95	-	-

The direct effect coefficient (regression weight) of VALUE → SATIS is -0.05 in the non-recursive model, in the recursive model it is 0.02. The difference is 0.07. Besides, there was a change in the direction of the relationship from negative to positive. The t-value is -0.37 in the non-recursive model to 0.16 in the recursive model. There is a difference of 0.53, there is a change in direction from negative to positive. The coefficient of VALUE → TRUST is 0.14 in the non-recursive model, to 0.17 in the recursive model. The difference is 0.03. The t-value in the non-recursive model is 1.24 to 1.72 in the recursive model. The difference in t-value is 0.48. The DIFF → SATIS coefficient is 0.04 in the non-recursive model, to 0.10 in the recursive model. The difference in t-value is 0.19. The DIFF → TRUST coefficient is 0.06 in the non-recursive model, to -0.15 in the recursive model. The difference is 0.06. Besides, there was a change in direction from positive to negative. The t-value in the non-recursive model is 0.25 to -0.65 in the recursive model. The difference in t-value is 0.9. The EMO → SATIS coefficient is 0.57 in the non-recursive model, to 0.78 in the recursive model. The difference is 0.21. The t-value in the non-recursive model is 2.26 to 3.89 in the recursive model. The difference in t-value is 1.63. In non-recursive and recursive contexts, the effect of emotional branding on consumer satisfaction is unidirectional and significant. The results of this study are in line with (G. Setiadi et al., 2015; Irissappane & Shankardevi, 2015; Pulido & Stone, 2014). The coefficient of SATIS → TRUST is 0.64 in the non-recursive model, to 0.89 in the recursive model. The difference is 0.25. The t-value in the non-recursive model is 2.62 to 3.43 in the recursive model. The difference in t-value is 0.81. The direct effect of customer satisfaction on customer trust, both on non-recursive and recursive causal relationships, is significant and positive. The study results are in line with (Setiawan et al., 2020; Fairina, 2018; Prameka et al., 2016; Rizan et al., 2015; Shirin & Puth, 2011; Lin & Wu, 2011).

### 6.3 Indirect Effect

The indirect effect coefficient VALUE → SATIS → TRUST is 0.02 in the non-recursive model the same as in the recursive model. T-value in the non-recursive model is 0.18 to 0.16 in the recursive model. T-value < 1.96, not significant. Consumer

satisfaction is not a mediator of perceived value on customer trust, both in non-recursive and recursive contexts. See table 4. Even though the indirect effect is the same, the significance changes from 0.18 to 0.16. The coefficient of indirect effect  $\text{DIFF} \rightarrow \text{SATIS} \rightarrow \text{TRUST}$  is 0.06 in the non-recursive model to 0.08 in the recursive model. The coefficient is higher in the recursive model. T-value in the non-recursive model is 0.39 to 0.37 in the recursive model. T-value < 1.96, not significant. Consumer satisfaction is not a mediator of differentiation to customer trust, both in non-recursive and recursive contexts. The coefficient of indirect effect is higher in the recursive model. The indirect effect coefficient  $\text{EMO} \rightarrow \text{SATIS} \rightarrow \text{TRUST}$  is 0.52 in the non-recursive model to 0.69 in the recursive model. The coefficient is higher in the recursive model. T-value in the non-recursive model is 2.71 to 3.23 in the recursive model. T-value > 1.96, significant. Consumer satisfaction mediated emotional branding to customer trust, both in non-recursive and recursive contexts. Indirect effect coefficient is higher in the recursive model. Significance level in the recursive model is higher than that in the non-recursive model.

**Table 4**

Indirect effect coefficient dan t-value in non recursive and recursive context

Causal Relationships	Coefficient		T-value	
	Non Recursive	Recursive	Non Recursive	Recursive
VALUE $\rightarrow$ SATIS $\rightarrow$ TRUST	0.02	0.02	0.18	0.16
DIFF $\rightarrow$ SATIS $\rightarrow$ TRUST	0.06	0.08	0.39	0.37
EMO $\rightarrow$ SATIS $\rightarrow$ TRUST	0.52	0.69	2.71	3.23
VALUE $\rightarrow$ TRUST $\rightarrow$ SATIS	0.07	-	0.87	-
DIFF $\rightarrow$ TRUST $\rightarrow$ SATIS	0.06	-	0.50	-

The effect of total emotional branding on customer trust in a non-recursive context is 0.52. The indirect effect is 0.52. Therefore consumer satisfaction mediates 100% emotional branding on customer trust. It needs to be added that there is no direct emotional branding influence on trust. In a recursive context, the total effect of emotional branding on customer trust is 0.69. The indirect effect is 0.69. Consumer satisfaction mediates 100% emotional branding on consumer trust. There is no direct emotional influence on consumer trust. The difference is in the magnitude of the coefficient of direct and indirect effects. In the context of the non-recursive model, the indirect effect coefficient of  $\text{VALUE} \rightarrow \text{TRUST} \rightarrow \text{SATIS}$  is 0.07, with a t-value of  $0.87 < 1.96$ , which is not significant. Customer trust is not a mediator of perceived value on consumer satisfaction. In the recursive model the indirect effect coefficient of  $\text{VALUE} \rightarrow \text{SATIS} \rightarrow \text{TRUST}$  is 0.02, with a t-value of  $0.16 < 1.96$ , which is not significant. Although both are not significant, the mediating effect of trust on the casual relationship between perceived value and consumer satisfaction in a non-recursive context is higher than the mediating effect of consumer satisfaction on customer trust in the recursive model. In the context of the non-recursive model, the indirect effect coefficient of  $\text{DIFF} \rightarrow \text{TRUST} \rightarrow \text{SATIS}$  is 0.06, with a t-value of  $0.50 < 1.96$ , which is not significant. Customer trust is not a differentiation mediator on customer satisfaction. In the recursive model, the indirect effect coefficient of  $\text{DIFF} \rightarrow \text{SATIS} \rightarrow \text{TRUST}$  is 0.08, with a t-value of  $0.37 < 1.96$ , which is not significant. Although both of them are not significant, the mediating effect of customer satisfaction in the causal relationship of differentiation on customer trust in a recursive context is higher than the mediating effect of customer trust between differentiation and customer satisfaction in the non-recursive model.

## 7. Conclusion and Recommendation

The direct effect of perceived value and differentiation partially on consumer satisfaction is lower than the effect of the two exogenous variables on customer trust in the context of the two exogenous variables that affect each other (reciprocal). However, in the context of the one-way influence of consumer satisfaction on customer trust is different, where the direct effect of perceived value and difference is higher on customer satisfaction than on customer trust. It is important to prove first, whether the causal relationship between customer satisfaction and customer trust is non-recursive or recursive. Then program has been designed and implemented to increase the perceived value and differentiation of vivo smartphones in Medan. Customer perception towards enjoyment value is more dominant related to perceived value. Differentiation on smartphone performance is more dominant. If the direct effect coefficient between positive latent variables is either significant or insignificant in the non-recursive and recursive models, then the coefficient in the recursive model is always higher. This means that there is an increase in the direct influence of the recursive model. The direct effect of customer satisfaction on customer trust is higher than the customer trust effect on customer satisfaction. The mediating effect of consumer satisfaction in the causal relationship of differentiation and emotional branding on customer trust is higher in a recursive context, both in significant and insignificant circumstances. The indirect effect on the recursive model in the insignificant condition decreases and increases in the significant condition. The opposite effect of customer trust on customer satisfaction in the non-recursive model can be a contributing factor so that the direct effect coefficient and the mediating effect of customer satisfaction in the non-recursive model are lower. Next authors will be able to re-test the non-recursive model with a different product. In addition, it can add or replace latent variables either as an antecedent or consequence related to the reciprocal relationship of customer satisfaction and trust. They can expand the research location to cover provincial or national levels.

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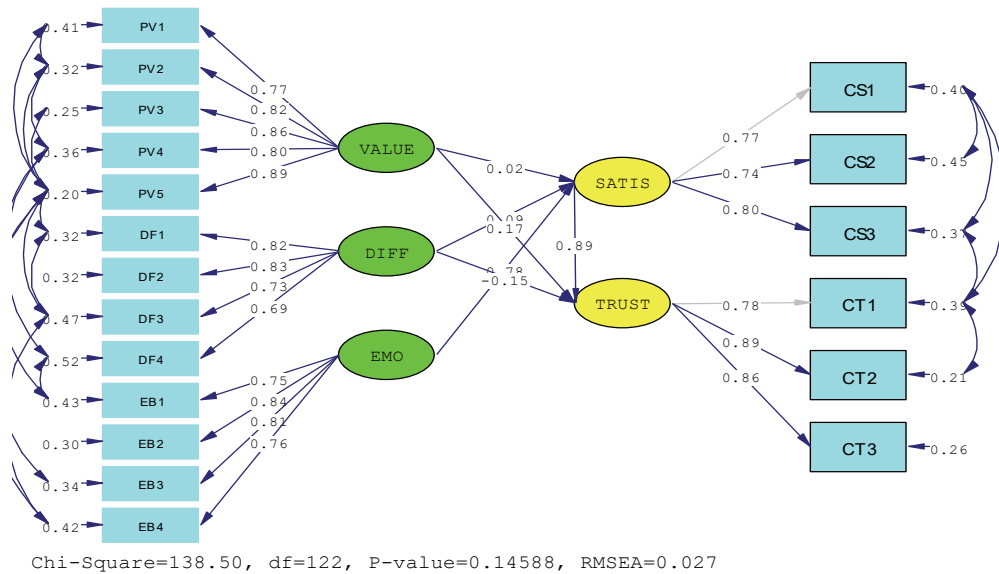
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**Appendix A**



**Fig. A.1.** Recursive - Path diagram of structural model



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