

Analysis of Consumer Attitude, Environmental Concern and Perceived Value to Purchase Decision Upcycled Products which mediated by Purchase Intention

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Abstract

In connection with environmental problems faced by the Indonesian government such as greenhouse effect, air/water/soil pollution, extinction/loss of species, and exhaustion of natural resource pose serious threat to environment. In connection with this condition, society and the government are trying to reduce this pollution by upcycling products. This research was conducted to find out the influence of customer attitude, environment concern and perceived value to purchase decision mediated by purchase intention. To analysis data, SEM PLS was used. Questionnaires was distributed to 200 respondent who already by the upcycle products using by Google Form application with purposive sampling in DKI Jakarta. The author find out the influence of consumer attitude to purchase intention on upcycle product is significant. Also, there is the influence of environmental concern to purchase intention on upcycle products is significant. After that the influence of perceived value to purchase intention on product upcycle is significant. Purchase intention mediates the influence of environmental concern on purchase decisions. Hence, purchase intention mediates the influence of perceived value on purchase decision. Purchase intention mediates the influence of consumer attitude on purchase decisions.

Keyword: customer attitude, environmental concern, perceived value, purchase intention and purchase decision.

1. Introduction

Diverse problems (e.g. greenhouse effect, air/water/soil pollution, extinction/loss of species, and exhaustion of natural resources) pose a serious threat to the environment and its sustainability (Wang et al., 2020; Xu et al., 2020). Also, as serious waste disposal problems threaten mankind, there is an increasing social awareness of the need to conserve resources and reduce greenhouse gas emissions and landfills. Reflecting the social concerns of these serious environmental issues, consumers are increasingly urged to accelerate sustainable actions related to product disposal, such as the popular of upcycling. Upcycling is defined as a process to “reuse discarded objects or materials in such a way as to create a product of higher quality or value than the original” (Bridgenst et al. 2018).

Also, as consumers to accelerate their sustainable behaviors relating to product disposal such as product reuse and product life extension. There is identified the total perceived utility of upcycled products as six values that influence different levels of product attitude, which, in turn, affect purchase intention. Also, environmental concern is an individual's concern or awareness of the environment (Junior et al., (2018}). The state that individuals who seek to protect or improve environmental quality, save energy and natural resources and to reduce or eliminate the use of pollutants and toxic waste prefer to use environmentally friendly products or can be called "green products" the scope of the products that produced through upcycling also varies, such as: slipper made of newspaper, pencil case made by useless straw, sofa made by waste can, bag made by truck tarpaulins, discarded bicycle inner tubes and car seat belt, vase made by discarded light bulb (Sung, K. 2017). Therefore, there is perceived value. Customer perceived value can be a relativistic reference and experience depending on the individual, situation or product. This study examined consumer attitude, environmental concern, perceived value to purchase decision Upcycled Products which mediated by purchase intention.

2. Literature Review

2.1 Consumer Attitude

Wei and Jung's (2017) addressed the total perceived utility of sustainable fashion products, including their general product value (i.e., functional, emotional, social) and green value. Although consumers struggle to infer information about the characteristics of the product they first encounter, consumers who have gained real knowledge through product experience can deduce more information on the quality or price of the product based on stored memory, which makes an attitude toward the product more positive than the consumer who lacks knowledge (Teli, 2014). According to the stream of research on green marketing, individual characteristics, such as demographics, lifestyle, values, knowledge, and perceived behavioral and situational factors, might explain the intention–purchase (Park, H.J&Lin, L.M. (2018). Although consumers struggle to infer information about characteristics of the product they first encounter, consumers who have gained real knowledge through product experience can deduce more information on the quality or price of the product based on stored memory, which makes an attitude toward the product more positive than the consumer who lacks knowledge (Salazar-Ordóñez, M. et al., 2018).

In addition, upcycling can be used as a unique selling point because it provides an inimitable Sung & Sarah (2015). According to Sung & Cooper (2015), upcycling can be used as a unique selling point because excitement from the upcycled product, which is important to them, as the product is unique and one of a kind. Simultaneously, customers have positive attitudes toward products when they perceive emotional value. Product attitude and purchase intention. According to Somi Yu and Jieun Lee (2019), there is a positive effect of product attitude on purchase intention.

H1: There is the influence of consumer attitude on purchase intention

Somi Yu and Jieun Lee (2019) said there is a positive effect of product attitude on purchase intention.

2.2 Environmental Concern

Environmental concern is an individual's concern or awareness of the environment. Dimensions of environmental concern according to (Halkos, et al., 2018):

1. Egoistic: consumers care about environmental issues because consumers are aware of the impact on their lifestyle.
2. Altruistic: Consumers care about environmental issues because they realize the impact on everyone.
3. Biospheric concerns: Consumers care about environmental problems because consumers are aware of the impact on animals and plants.

H2: There is the influence of environmental concern on purchase intention.

According to Sener, Biskinn & Diundar (2023), environmental concerns were found to be much more effective on purchase intentions,

2.3 Perceived Value

Perceived value is the value that is felt directly by someone who uses it. According to Yu & Lee (2019) perceived value is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given. Perceived value can also be interpreted as perceived value representing a number of different value dimensions, which have different effects in different situations. Customer perceived value can be a relativistic reference and experience depending on the individual, situation or product. According to Tunjungsari (2016) & Yu & Lee (2019), perceived value consists of: (1) Functional value: consumers feel the benefits of upcycled products; (2) Emotional value: upcycled products will make consumers want to use them; (3) Social value: upcycled products give a good impression. Firmansyah said there is perceived value a significant influence on purchase intention.

H3: There is the influence of perceived value on purchase intention.

Firmansyah said there is perceived value a significant influence on purchase intention.

2.4 Purchase Intention

According to Himawan (2018) purchase intention is something that is formed from consumer attitudes as a response to an object that shows the customer's interest in a purchase. According to Sartika (2017) purchase intention is a stage in which a person tends to take action before deciding to take an interest in the product being offered. According to Kotler

and Keller (2016: 198) purchase intention is a form of consumer behavior that desires to buy or choose a product based on their experience, use and desire for a product. Meanwhile, according to Salfina&Gusri (2018); Nurfitri Ani (2016) purchase intention indicators are: (1) transactional interest where consumers intend to purchase upcycled products; (2) referential interest, consumers tend to want to provide references or recommend upcycled products to other consumers; (3) preferential interest, consumers intend to make upcycled products their first choice when carrying out shopping activities (4) exploratory interest, consumers intend to find out more about the upcycled products they will purchase.

H4: There is the influence of purchase intention to purchase decision

Purchase is a kind of decision making that is the reason to buy a particular brand by consumer (Shah et al., 2012).

2.5 Purchase Decision

Kotler & Keller (2012), states that purchasing decision are problem solving proses consisting of analyzing needs and wants, information retrieval resource assessment, selection of alternative purchases, purchasing decision and post purchase behaviour. According purchase interest while product variable, service quality and company reputation significantly affects purchasing that decision. Purchasing decision are defined as what to buy or not, when to buy where to buy, and how to pay for & it (Kotler & Armstrong, 2018). Decision making is a form oiferrefrom d f psychological constriction, which means that although the decision cannot be seen, it can be inferred from observable behaviour that a decision has been made therefore that it can be concluded that a psychological “decision making” event has occurred linking a meaningful commitment to action based on observable action, assuming that people have made a commitment to take that action. Swasta & Irawan (2014) said that purchasing decision have six dimensions as follow: product type decision, brand decision, seller decision,, product quantity decision and purchase timing decisions.

2.6 Research Model

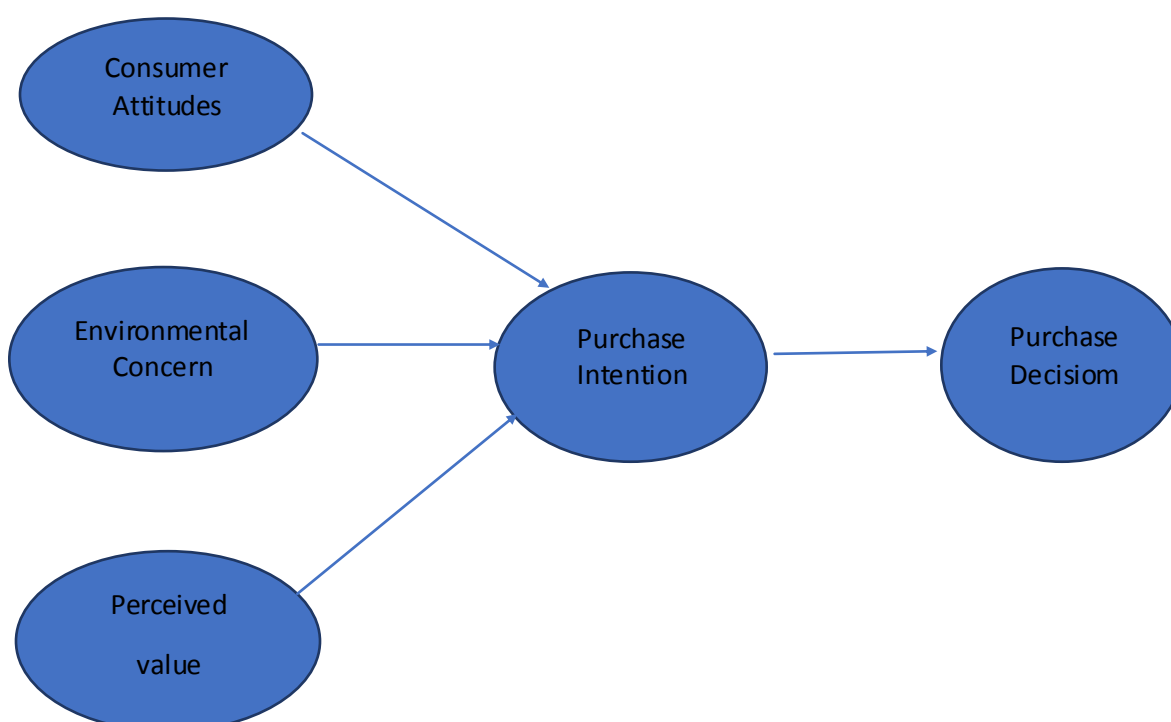


Figure 1: Research Model

2.7 Hypothesis

1. There is the influence of consumer attitude to purchase intention on upcycle product.
2. There is the influence of environmental concern to purchase intention on upcycle product.
3. There is the influence of perceived value to purchase intention upcycle product.
4. There is the influence of purchase intention to purchase decision on upcycle product.
5. There is the influence of consumer attitude, environmental concern and perceived value to purchase decision mediated by purchase intention.

3. Research Method

3.1. Samples and Procedures

This research was conducted to find out the influence of customer attitude, environment concern and perceived value to purchase decision mediated by purchase intention. SEM PLS was used to analysis data .Samples based on the criteria of Hair et, al (2017) with scale (5-10) x number of indicators. Because there are 18 indicators of this study, the number of samples is 18x 10=180 respondents. To anticipator the data cannot be input, therefore the questionnaires was distributed to 200 respondent who already by the upcycle products using by Google Form application with purposive sampling in DKI Jakarta.

4. Research Results

4.1 Respondent Profile

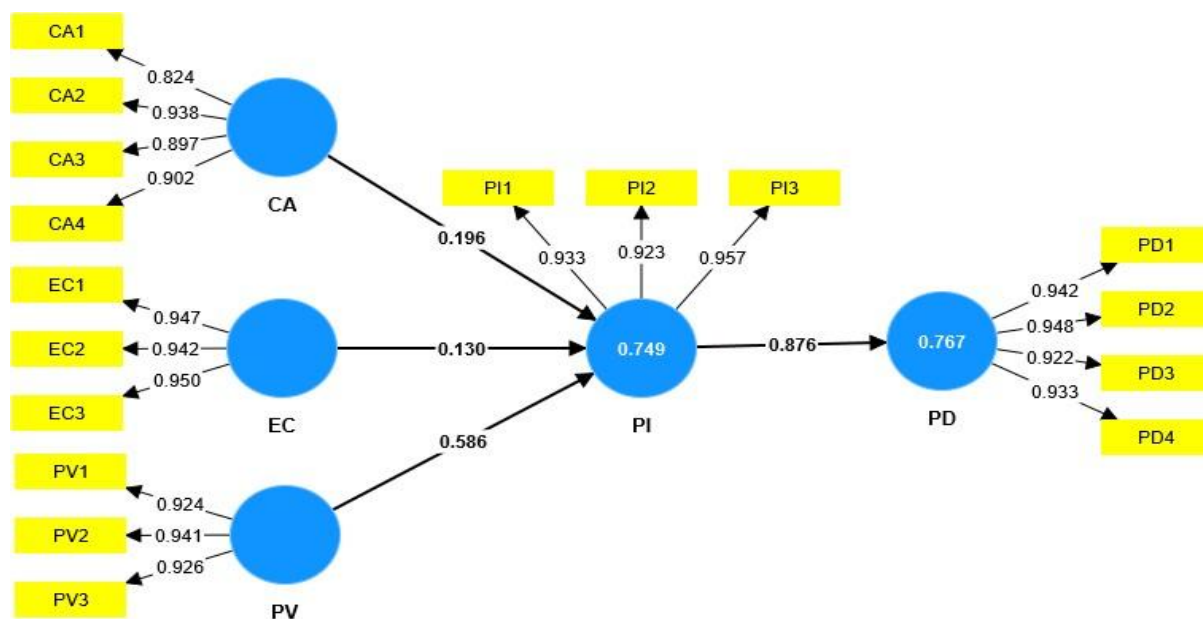
Table 1 Responded Profile

		f	%
Gender	: Female	121	61,1
	Male	77	38,9
	Total	198	100,0
Education	: Primary school to High school	37	18,7
	Undergraduate	147	74,2
	Master	11	5,6
	Phd	3	1,5
	Total	198	100,0
Age	: 16 - 25 year	3	1,5
	17 - 25 year	141	71,2
	18 - 25 year	3	1,5
	19 - 25 year	1	0,5
	26 - 35 year	9	4,5
	> 35 year	41	20,7
	Total	198	100,0
Job	: Student/Undergraduate student	134	67,7
	Employee	35	17,7

	Entrepreneur	8	4,0
	Housewives	21	10,6
	Total	198	100,0
Expenses per month: Student/Undergraduate student	: < Rp.1.000.000.	76	54,3
	Rp. 1.000.001 - Rp. 3.000,000	52	37,1
	Rp. 3.000.001 - Rp. 5.000.000	10	7,1
	Rp. 3.000.001 - Rp. 5.000.001	2	1,4
	Total	140	100,0
Expenses per month: Employee	: < Rp. 4.000.000	27	45,0
	< Rp. 4.000.001	1	1,7
	< Rp. 4.000.002	1	1,7
	Rp. 4000.001 - Rp. 6.000.000	15	25,0
	> Rp. 6.000.000	16	26,7
	Total	60	100,0
Expenses per month: Housewife	: < Rp.3.000.000	18	36,7
	< Rp.3.000.001	1	2,0
	< Rp.3.000.002	1	2,0
	Rp. 3.000.000 – Rp. 5.000.000	13	26,5
	> Rp. 5.000.000	16	32,7
	Total	49	100,0
Expenses per month: Entrepreneur	: < Rp. 5.000.000	20	54,1
	< Rp. 5.000.001	1	2,7
	< Rp. 5.000.002	1	2,7
	Rp. 5.000.000 - Rp.10.000.000	6	16,2
	> Rp.10.000.000	9	24,3
	Total	28	75,7

Based on the table above, it can be said that most respondents: female (61,1%); education:undergraduate (74,2%); age: 17-25year (71.2); job : student/undergraduate (67,7%); expenses per month: of student/undergraduate student, < Rp.1.000.000.,(54.3%); expenses per month of employee, < Rp. 4.000.000 (45,0%); expenses per month: housewife < Rp.3.000.000 (36.7% } and expenses per month of entrepreneur < Rp. 5000.000 (54,1%).

4.2 MEASUREMENT MODEL



4.2.1 Validity testing

4.2.1.1 Convergent Validity

a. Outer Loadings

	CA	EC	PD	PI	PV
CA1	0,824				
CA2	0,938				
CA3	0,897				
CA4	0,902				
EC1		0,947			
EC2		0,942			
EC3		0,950			
PD1			0,942		
PD2			0,948		
PD3			0,922		
PD4			0,933		
PI1				0,933	
PI2				0,923	
PI3				0,957	
PV1					0,924
PV2					0,941
PV3					0,926

Note: CA=consumer attitude, PI=purchase intention, EC=environmental concern, PV=perceived value, PD=purchase decision.

The outer loadings table above shows that all factor loadings have values above 0.7, while in the table below all constructs have Average Variance Extracted (AVE) values above 0.5.

According to Hair et al., (2017), a construct is said to have good convergent validity if its outer loading and AVE values are above 0.7 and 0.5, respectively. Conclusion, all the constructs of this research have good.

b. Average Variance Extracted (AVE)

Overview

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CA	0,913	0,923	0,939	0,794
EC	0,942	0,944	0,963	0,896
PD	0,953	0,953	0,966	0,877
PI	0,931	0,933	0,956	0,879
PV	0,922	0,923	0,951	0,865

Note: CA=consumer attitude, PI=purchase intention, EC=environmental concern, PV=perceived value, PD=purchase decision.

4.2.1.2 Discriminant Validity

Cross loadings

	CA	EC	PD	PI	PV
CA1	0,824	0,646	0,594	0,597	0,617
CA2	0,938	0,779	0,752	0,735	0,771
CA3	0,897	0,731	0,670	0,668	0,719
CA4	0,902	0,738	0,720	0,765	0,786
EC1	0,782	0,947	0,774	0,754	0,790
EC2	0,770	0,942	0,722	0,680	0,722
EC3	0,758	0,950	0,745	0,716	0,760
PD1	0,723	0,712	0,942	0,825	0,788
PD2	0,744	0,751	0,948	0,829	0,803
PD3	0,728	0,773	0,922	0,817	0,785
PD4	0,694	0,723	0,933	0,810	0,787
PI1	0,757	0,728	0,841	0,933	0,825
PI2	0,681	0,678	0,790	0,923	0,742
PI3	0,752	0,726	0,831	0,957	0,820
PV1	0,732	0,737	0,773	0,776	0,924
PV2	0,790	0,761	0,803	0,773	0,941
PV3	0,757	0,739	0,780	0,820	0,926

Note: CA=consumer attitude, PI=purchase intention, EC=environmental concern, PV=perceived value, PD=purchase decision.

The cross loading table above shows that the construct has good discriminant validity because the correlation value of the indicator to the construct is higher than the correlation value of the indicator to other constructs..

The table below also shows that the construct has good discriminant validity because the AVE root value is higher than the correlation value between other constructs.

Fornell-Larcker criterion

	CA	EC	PD	PI	PV
CA	0,891*				
EC	0,814	0,946*			
PD	0,771	0,790	0,936*		
PI	0,780	0,759	0,876	0,938*	
PV	0,816	0,801	0,845	0,850	0,930*

Note: *square rootAVE; CA=consumer attitude, PI=purchase intention, EC=environmental concern, PV=perceived value, PD=purchase decision.

4.2.1.3 Reliability testi
Composite Reability

Overview

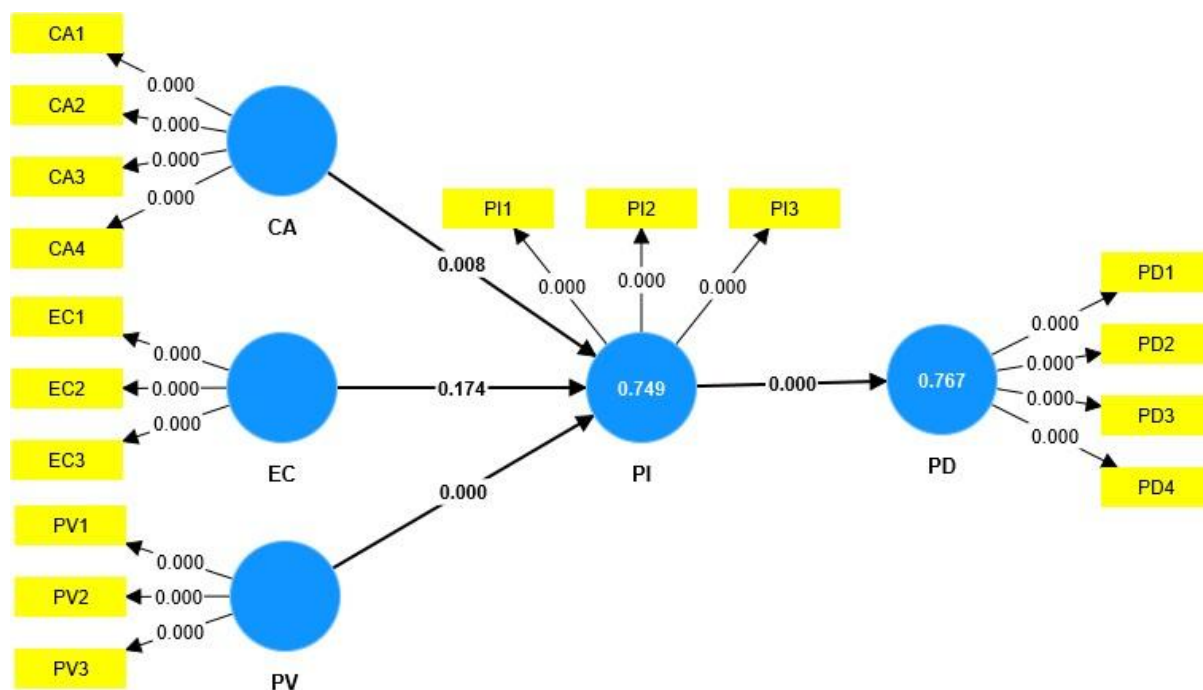
	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CA	0,913	0,923	0,939	0,794
EC	0,942	0,944	0,963	0,896
PD	0,953	0,953	0,966	0,877
PI	0,931	0,933	0,956	0,879
PV	0,922	0,923	0,951	0,865

Note: CA=consumer attitude, PI=purchase intention, EC=environmental concern, PV=perceived value, PD=purchase decision.

The table above shows that the Cronbach's Alpha and Composite Reliability values are > 0.7, which means that the constructs of consumer attitude, purchase intention, environmental concern, purchase decision, purchase intention and perceived value have good internal consistency.

According to Hair et al., (2017), a construct is said to have good internal consistency if its Cronbach's Alpha and Composite Reliability values are above 0.7 each.

Conclusion: The results of convergent validity, discriminant validity and composite reliability tests show that all indicators and constructs in this research are valid and reliable.



4.2.1.4 STRUCTURAL MODEL

2.1.1 Coefficient of determination (R²)

R-square

Overview

	R-square	R-square adjusted
PD	0,767	0,766
PI	0,749	0,745

Note: CA=consumer attitude,
 PI=purchase intention,
 EC=environmental concern,
 PV=perceived value, PD=purchase decision.

TR-Square Purchase Decision value of 0.767 means that the variability of the purchase decision construct which can be explained by purchase intention is 76.7%, while the R-Square value of the purchase intention construct of 0.749 means the variability of the purchase intention construct which can be explained by the CA construct, environmental concern, and perceived value, amounting to 74.9%.

According to Hair et al., (2017), the R-Square criteria consists of three classifications, namely: R² values of 0.67, 0.33 and 0.19 as substantial, moderate and weak => Thus, the R-Square value is classified as moderate.

2.1.2 Cross-validated redundancy (Q²)

Blindfolding

LV prediction summary

PLS-SEM

	Q ² predict	RMSE	MAE
PD	0,732	0,524	0,396
PI	0,739	0,517	0,379

Note: CA=consumer attitude,
 PI=purchase intention,
 EC=environmental concern,
 PV=perceived value, PD=purchase
 decision.

The Construct Cross Validated Redundancy table above shows the Q² value of the purchase decision and purchase intention constructs of 0.732 and 0.739 respectively which is greater than > 0 this shows that the model has predictive relevance.

2.1.3 Multicollinierity

Collinearity Statistics (VIF)

Inner model - Matrix

	CA	EC	PD	PI	PV
CA				3,817	
EC				3,554	
PD					
PI			1,000		
PV				3,595	

The Collinearity Statistics (VIF) table above shows that all indicators have a VIF value smaller than 5. This means that the SEM-PLS model is free from multicollinearity problems. "5" as the maximum level of VIF (Hair et al., 2017).

2.1.4 HYPOTHESIS TESTING

a. Direct Effect

Final results

Path coefficients

Mean, STDEV, T values, p values

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
CA -> PI	0,196	0,194	0,074	2,646	0,008
EC -> PI	0,130	0,129	0,096	1,358	0,174
PI -> PD	0,876	0,875	0,025	35,054	0,000
PV -> PI	0,586	0,588	0,080	7,282	0,000

Note: CA=consumer attitude, PI=purchase intention, EC=environmental concern, PV=perceived value, PD=purchase decision.

The table above shows that:

- The influence of consumer attitude to purchase intention on upcycle product is significant and positive ($\beta = 0.196$, $p < 0.05$).
- The influence of environmental concern on purchase intention on upcycle products is significant and positive ($\beta = 0.130$, $p < 0.05$).
- The influence of purchase intention to purchase decisions on product upcycle is significant and positive ($\beta = 0.876$, $p < 0.05$).
- The influence of perceived value to purchase intention on product upcycle is significant and positive ($\beta = 0.586$, $p > 0.05$).

b.indirect Effect

Specific indirect effects

Mean, STDEV, T values, p values.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
EC -> PI -> PD	0,114	0,113	0,085	1,344	0,179
PV -> PI -> PD	0,513	0,515	0,073	7,068	0,000
CA -> PI -> PD	0,172	0,170	0,064	2,692	0,007

Note: CA=consumer attitude, PI=purchase intention, EC=environmental concern, PV=perceived value, PD=purchase decision.

The table above shows that:

- Purchase intention mediates the influence of environmental concern on purchase decisions .
- Purchase intention mediates the influence of perceived value on purchase decisions ($\beta = 0.513$, $p < 0.05$)

- Purchase intention mediates the influence of consumer attitude on purchase decisions ($\beta = 0.172, p < 0.05$).

2.1.5 Effect size (f^2).

f-square

Matrix

	CA	EC	PD	PI	PV
CA				0,040	
EC				0,019	
PD					
PI			3,294		
PV				0,380	

Note: CA=consumer attitude, PI=purchase intention, EC=environmental concern, PV=perceived value, PD=purchase decision.

The table above shows that

- The magnitude of the effect of the consumer attitude construct on purchase intention is 0.040. => weak
- The magnitude of the effect of the environmental concern construct on purchase intention is 0.019. => no effect
- The magnitude of the effect of the purchase intention construct on purchase decisions is 3.294. => strong
- The magnitude of the effect of the perceived value construct on purchase intention is 0.380. => strong

Effect size values: 0.02 - 0.15 (weak), 0.15 -0.35 (medium) and >0.35 (strong) (Ghozali, 2021).

Model fit

Fit summary

	Saturated model	Estimated model
SRMR	0,039	0,060
d_ ULS	0,233	0,554
d_ G	0,359	0,402
Chi-square	457,259	492,779
NFI	0,892	0,884

Model fit criteria:

The model is said to be fit if the SRMR value must be below 0.08 and the NFI must be above 0.90. Thus, this research model fits the data because the SRMR value (0.06) is smaller than 0.08. However, if seen from the NFI side, this research model is concluded to be marginally fit with the data because the NFI value (0.884) is smaller than 0.90 (see model fit table.).

Specific indirect effects

Mean, STDEV, T values, p values

- The influence of environmental concern to purchase intention on upcycling products is significant and positive.
- The influence of purchase intention on purchase decisions on product upcycle is significant and positive.
- The influence of perceived value on purchase intention on product upcycle is significant and positive

4.1.2.5 Conclusion and Discussion

The influence of consumer attitude to purchase intention on upcycle product is significant and positive. This is caused by the products offered to consumers being of good quality, affordable prices and available in various online shops. Also the result are in accordance with Somi Yu and Jieun Lee (2019, that said there is positive effect product attitude to purchase intention. Also there is the influence of environmental concern to purchase intention on upcycling products is significant and positive.

This is influenced by the large number of consumers who care about the environment. This results are in accordance by Sener, Biskinn & Diundar (2023), that said the environmental concerns were found to be much more effective on purchase intentions. After that, the influence of perceived value to purchase intention on product upcycle is significant. The influence of purchase intention to purchase decisions on product upcycle is significant, because consumers would like to purchase the produce upcycle based on the model and design. This result are similar (Shah et al., 2012), said purchase is a kind of decision making that is the reason to buy a particular brand by consumer.

Purchase intention mediates the influence of environmental concern on purchase decisions, This can be said that there the existence of purchase intention, therefore there is the environmental concern to purchase decision. Purchase intention mediates the influence of perceived value on purchase decision, therefore it can be said that there is the existence the purchase intention, it can be made perceived value to purchase decision. Purchase intention mediates the influence of consumer attitude on purchase decisions, therefore it can be said that there is the existence the purchase intention, it can be made consumer attitude to purchase decision.

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