

Strategies to Encourage the Acceleration of Circular Economic Practices Among Youth Play as Agent of Change

Maya Maria¹, Anisa Zahwa Akbara², Hubertina Karolina Ngarbingan³, Ginta Ginting⁴

Universitas Terbuka^{1,2,3,4}

Jl. Cabe Raya, Tangerang Selatan 15418, Indonesia

Correspondence Email: ginta@ecampus.ut.ac.id

ARTICLE INFORMATION

Publication information

Research article

HOW TO CITE

Maria., M., Akbara, A. Z., Ngarbingan, H. K., & Ginting, G. (2023). Strategies to Encourage the Acceleration of Circular Economic Practice Among Youth Play as Agent of Change. *International Journal of Applied Business and International Management*, 8(3), 322-340.

DOI:

<https://doi.org/10.32535/ijabim.v8i3.2529>

Copyright© 2023 owned by Author(s).
Published by IJABIM



This is an open-access article.

License: Attribution-Noncommercial-Share Alike (CC BY-NC-SA)

Received: 20 OCTOBER 2023

Accepted: 19 NOVEMBER 2023

Published: 20 DECEMBER 2023

ABSTRACT

The implementation of the Circular Economy (Reduce, Reuse, Recycle, Recovery, and Repair) in Indonesia is having difficulties. Various problems still arise, especially related to readiness to change behavior patterns. Gap research from various sources indicates that building awareness from the end user aspect is important for more in-depth investigation, especially related to the motivators and obstacles to implementing a circular economy. As agents of change, the younger generation is the ideal basis for becoming agents of change who play the role of players as well as consumers of the future. This research is intended to investigate to what extent the role of the younger generation (attitudes, norms, intentions, behavior) can be a trigger factor for strengthening the role as agents of change (willingness to participate). This research involved 253 young people from various regions in Indonesia. Through SEM-LISREL analysis to test the modeling, several interesting things were found: (1) intention and behavior are strong determinants of forming awareness to participate in becoming agents of change that support positive attitudes to implement circular economy practices; and (2) there are indications the poor aspect of the norm to encourage agents of change. The findings can complete the research gap that changes the role of the younger generation to be accelerators of Circular Economy practices in the future.

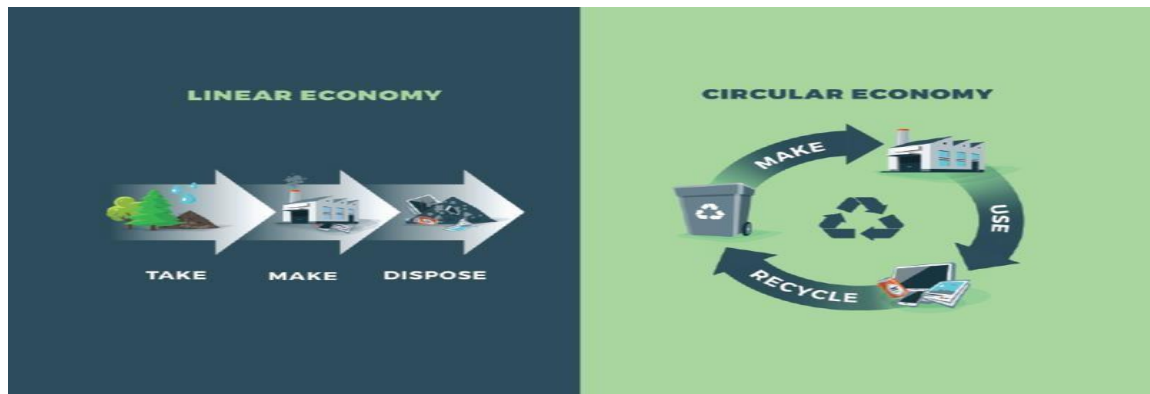
Keywords: Agents of Change, Awareness, Behavior, Circular Economy, Young Generation

INTRODUCTION

Approaching a decade towards the achievement of the Sustainable Development Goals (SDGs) and the targets for reducing greenhouse gas (GHG) emissions, the Conference of the Parties 26/COP 26 aims to address the pressing issue of global climate change. During COP 26, a thorough evaluation of COP 21 was conducted, wherein each country pledged to undertake significant actions until 2050. These actions include reducing GHG emissions, promoting the use of renewable energy, and ensuring that global temperatures remain below two degrees Celsius (Tim detikcom, 2021). Indonesia, during the meeting, expressed its unwavering commitment and dedicated efforts to tackle economic, social, and environmental challenges through low-carbon development and the promotion of Circular Economy (CE) practices. It is important to consider and develop further green innovation further since it plays a vital role in achieving sustainable performance (Rezende in Rizki & Hartanti, 2021).

Circular Economy presents an alternative to the linear/traditional economic model where resources are used for as long as possible, their maximum value is extracted, and then the products and materials are recovered and regenerated at the end of their service life (take-make-dispose) and replace it with a make-use-recycle system (Ellen MacArthur Foundation, 2013; Su et al., 2013; Geissdoerfer et al., 2017; Mies & Gold, 2021). This economic system offers solutions to global challenges like climate change, waste, pollution, and biodiversity loss. It is crucial for responsible companies to address potential issues in three stages: (1) purchase of raw materials and production; (2) consumption and use of the final product; and (3) collection and treatment of consumption waste.

Figure 1. From Linear Economy to Circular Economy



Source: Ellen McArthur, 2013

The CE concept is characterized by the recycling of raw materials from various products, which helps to minimize waste, emissions, and wasted energy. The application of CE is highly valuable due to its ability to reduce waste, increase productivity, address future resource scarcity, and reduce the negative environmental impact of production and consumption (Kirchherr et al., 2017; Wastling et al., 2018; Zsóka et al., 2013).

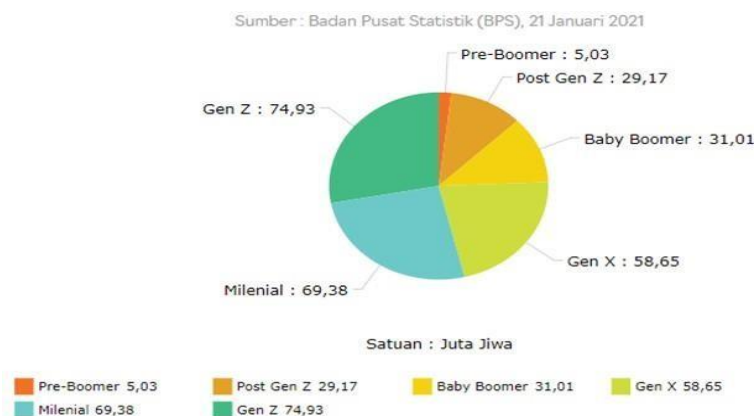
To achieve economic transformation, particularly in support of a green economy, Indonesia has incorporated the CE concept into its development vision and strategy with the aim of implementing it as a future policy. To begin implementing the Circular Economy concept, the Indonesian government has collaborated with UNDP to prioritize five industrial sectors - food and beverage, construction, electronics, textiles, and plastics - in its efforts (Low Carbon Development Indonesia [LCDI], 2021). The government has also included CE in the 2025-2029 Strategic Economic Development Plan and the Ministry of Industry has established five key principles of the CE concept - Reduce, Reuse, Recycle, Recovery, and Repair. These principles can be implemented by

reducing the use of natural resources, optimizing the use of reusable and recyclable materials, recovering materials, and making improvements through repair (Kementerian Perindustrian Republik Indonesia [Kemenperin RI], 2019).

The findings of a recent study conducted by Boyer et al. (2021) highlight the significance of further exploring the factors that motivate and hinder the adoption of CE practices, considering demographic factors such as customer segments. Currently, experts are paying attention to the role of the younger generation, who are expected to be both change agents and consumers of CE products. The younger generation is particularly interested in the achievement of SDG-12, which focuses on Sustainable Consumption and Production (SCP). SDG-12 necessitates collaboration and a systematic approach among stakeholders throughout the supply chain, from producers to end consumers. Consumers play a crucial role in driving Sustainable Production and Consumption (SCP), according to Organization for Economic Co-operation and Development (OECD in 2008. Specifically, SCP requires consumer engagement in sustainable consumption patterns to protect the environment. In Indonesia, SDG number 12 aims to involve the community as consumers and educate them about sustainable consumption and lifestyles (United Nations Environment Programme [UNEP], 2015).

The younger generation is a crucial element in bringing about positive change as they will play a pivotal role in shaping the future as consumers. According to recent data from Badan Pusat Statistik (BPS) in 2021, Indonesia has a significant number of young people, with Millennials and Generation Z comprising half of the population, totaling 144 million individuals. These two generations are the future consumers, having grown up in the era of digitalization, where social media (Facebook, WhatsApp, Twitter, Youtube, etc.) and technology have transformed communication and social relationships (Vrontis et al., 2021). Barbosa et al. (2014) suggest that young people are particularly well-suited for research as they tend to be more informed and have a better understanding of environmental issues compared to previous generations such as Gen X and Baby Boomers.

Figure 2. Generation Profile in Indonesia



Source: BPS, 2021

To promote the involvement of younger individuals as agents of change (catalysts and influencers) in the implementation of Circular Economy practices, a comprehensive solution is necessary. Behavioral theory-based modeling can provide valuable insights into the impact of behavioral factors on their willingness to participate.

LITERATURE REVIEW

Theory of Reasoned Action (TRA)

To thoroughly examine how the younger generation can play a crucial role in promoting successful CE practices, it is important to study their behavior from a behavioral perspective. It is essential to support the role of the younger generation as an important stakeholder in the implementation of CE practices. The theories of Reasoned Action (TRA) and Planned Behavior (TPB) can provide valuable insights into how effectively the younger generation is practicing a CE (Singh et al., 2018; Silva et al., 2019; Kuah & Wang, 2019).

Theory of Reasoned Action, proposed by Ajzen in 1980, provides an explanation for human behavior based on beliefs, attitudes, subjective norms, and intentions: (1) attitude refers to an individual's evaluation of an object or action, which includes emotional and rational thinking. A positive attitude towards an object or action can increase the intention to perform that action; (2) subjective norms relate to individual perceptions of others' views or social pressure concerning certain behaviors; (3) perceived behavioral control refers to an individual's perception of their ability to control certain behaviors, influenced by factors such as capabilities, resources, challenges, and barriers; and (4) intention is a decision to do or not do certain actions, influenced by attitudes, subjective norms, and self-control. Strong intentions tend to encourage individuals to take appropriate action.

Theory of Reasoned Action is a helpful tool for understanding and predicting human behavior. It examines attitudes, subjective norms, self-control of behavior, and intentions. This theory has been widely used in areas such as consumer behavior research, health research, and policy research. It can also be used to promote behavior change, such as in consumer decision-making and designing persuasive communication strategies. For instance, it has been applied to encourage green consumption and to communicate the risks of climate change (Nguyen et al., 2018).

Theory of Planned Behavior (TPB)

Theory of Planned Behavior, proposed by Ajzen in 1991, builds upon Theory of Reasoned Action and explains human behavior by considering three key factors: attitudes, subjective norms, and perceived behavioral control (Hamdie et al., 2022). This theory emphasizes the importance of an individual's perception of control over their behavior. According to the Theory of Planned Behavior, an individual's behavioral intention is influenced by their attitude towards the behavior, subjective norms, and their perception of control over their behavior. Ajzen highlights the significance of behavioral control as a differentiator between the Theory of Planned Behavior and the Theory of Reasoned Action. Perceived control is determined by factors such as self-efficacy, resource availability, and situational constraints. The three components of TPB are significant predictors of behavioral intention and actual behavior. This theory has been widely applied in various fields, including marketing, consumer behavior, and disaster preparedness. TRA assumes that behavior is influenced by intentions and subjective attitudes, while TPB includes a behavioral control factor known as Perceived Behavioral Control. This factor reflects an individual's belief in their ability to control their behavior and the external factors that influence it. It is worth mentioning that TPB is commonly utilized in Word of Mouth (WOM) and Electronic Word of Mouth (eWOM) studies. For instance, Fu et al. (2015) discovered that consumers behavioral intention to participate in eWOM is affected by their attitudes and motivation, while social norms and perceptions of control and fairness play a significant role. The two theories are both similar and yet have some notable differences (Singh et al., 2018; Ajzen, 2012; Stern, 2000)

Behavioral Control Factors

One of the differences lies in their perspectives on Behavioral Control factors. TRA focuses solely on the intentions and subjective attitudes of individuals towards a behavior, disregarding any external factors that may impact their decisions. On the other hand, TPB expands on TRA by incorporating a behavioral control factor called Perceived Behavioral Control. This factor takes into account an individual's belief in their own ability to control their behavior, as well as the external influences that may affect it.

Prediction of Intentions and Behavior

TRA primarily deals with predicting behavior based on intentions, if strong intentions will lead to appropriate behavior. However, TPB goes a step further by incorporating the concept of control intention, which refers to an individual's belief about their ability to control behavior. This additional factor has a significant impact on actual behavior, making TPB more effective in predicting behavior than the TRA.

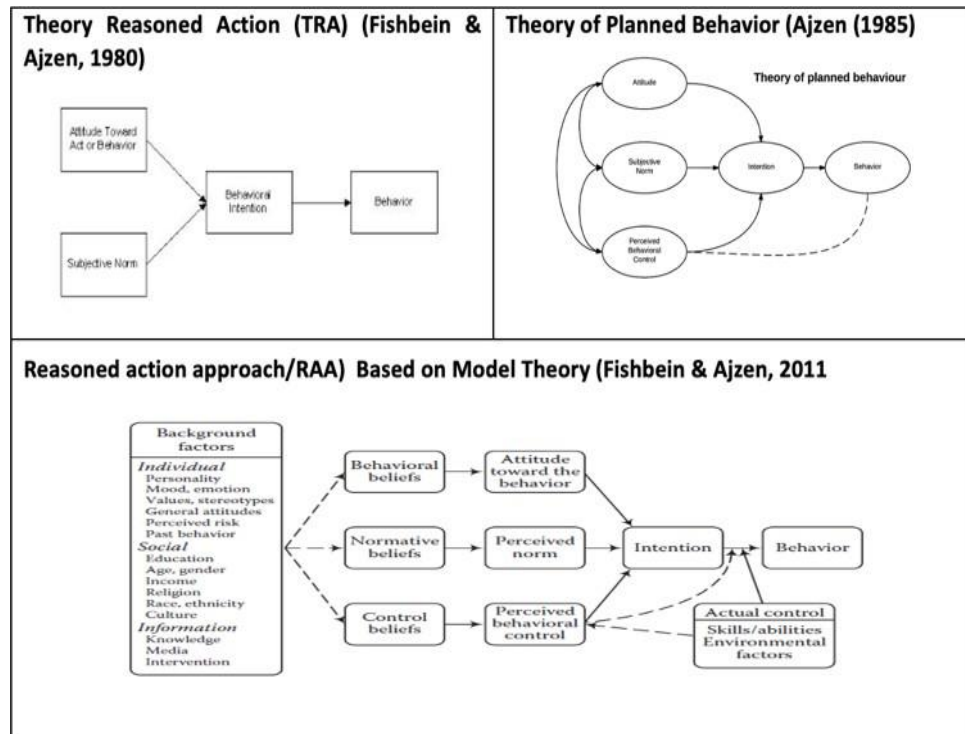
Context and Specific Behavior

TRA is commonly used to study specific behaviors that can be predicted directly from individual intentions, such as buying a product or engaging in certain activities. Meanwhile, TPB is more flexible and can be applied to various behavioral contexts, considering the controlling factors and the specific contexts that affect them. However, the two theories also share many similarities, including an emphasis on attitudes, subjective norms, and intentions as predictors of behavior. Both also attempt to explain behavior in terms of the psychological and social factors that influence it.

Theory of Reasoned Action Approach (RAA)

Theory of RAA (theory of reasoned action approach), which builds upon the contributions of both TRA and TPB, was further developed. It suggests that an immediate determinant of one's behaviour is one's intention to perform that behaviour (Wisker, 2018). Refers to Figure 3, the RAA theory (Fishbein & Ajzen, 2011) comprises five key components: learned behavior, intention (referred to as "I"), actual control which moderates intention, predictors of intentions and behavior including attitudes toward behavior (ATB), perceived norms (PN), and perceived behavioral control (PBC), determinant factors encompassing behavioral beliefs (BB), normative beliefs (NB), and control beliefs (CB), as well as a background factor (BF) (See Figure 3).

Figure 3. TRA, TPB, and RAA



In the context of implementing Circular Economy practices, these three theories can be used as a basis for proposing the following hypotheses on Table 1.

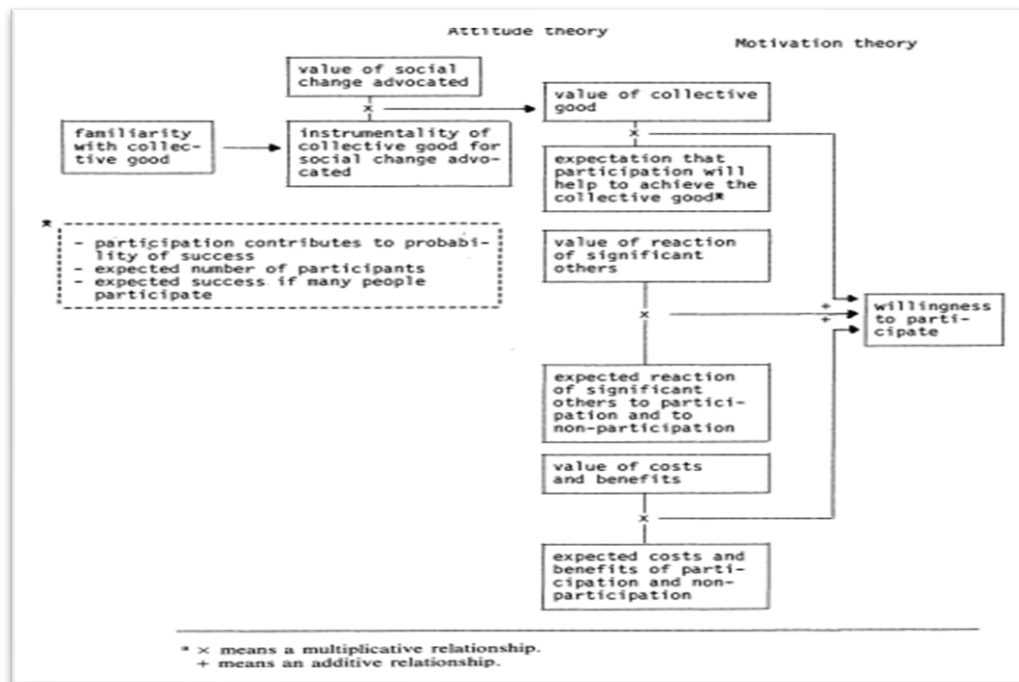
Table 1. Hypothesis Based on TRA, TPB, and RAA

No.	Hypothesis
H1	Perceived Behavioral Control (PBC) influences the intention of the younger generation to practice the CE.
H2	Perceived Norm (PN) influences the intention of the younger generation to practice a CE.
H3	Attitude influences the intention of the younger generation to practice the CE.
H4	Perceived Behavioral Control (PBC) influences the behavior of the younger generation in practicing the CE.
H5	Attitude influences the behavior of the younger generation in practicing the CE.
H6	Intention influences the behavior of the younger generation in practicing a CE.

Theory of the Willingness to Participate

In addition to the three behavioral theories, the development of this research model uses Willingness to Participate Theory (Van Stekelenburg & Kaldermans, 2017). This theory studies why an individual participates or does not participate in a collective social movement which is influenced by identity, cognition, motivation, and emotions that mediate between collective identity and collective action.

Figure 4. Theory of the Willingness to Participate



Source: Klandermans, 1984

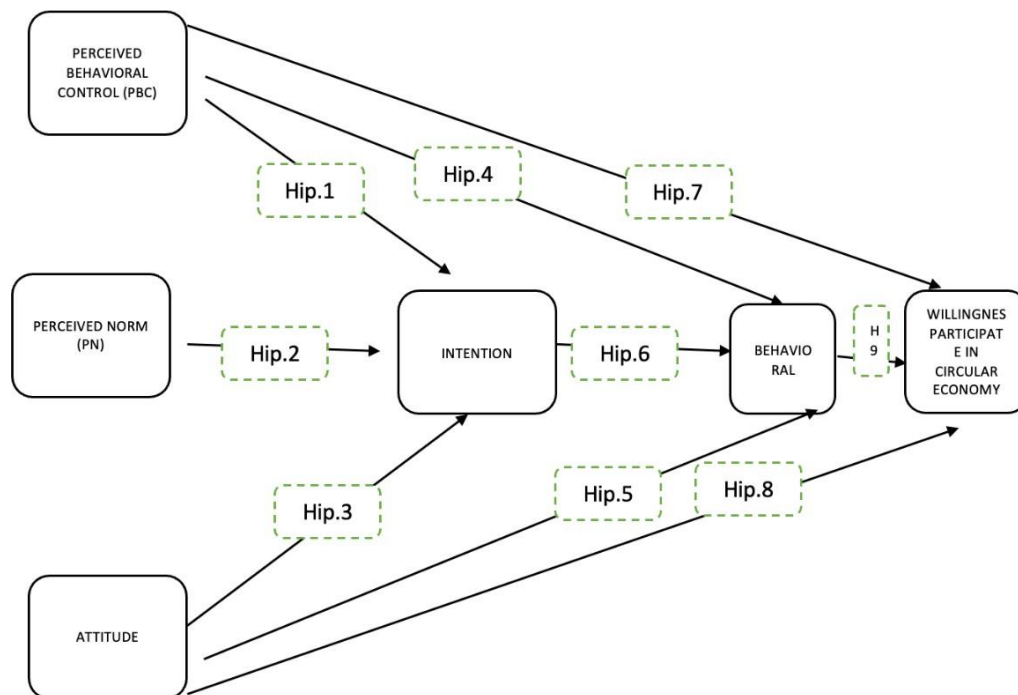
The basis of this theory can be used to propose the following hypothesis on Table 2.

Table 2. Hypothesis Based on Willingness to Participate Theory

No.	Hypothesis
H7	Perceived Behavioral Control (PBC) influences the willingness to participate in practicing the CE.
H8	Attitude influences willingness to participate in implementing CE practices.
H9	Behavior has an impact on the willingness to participate in implementing CE practices

The following Figure 5 is the conceptual model proposed in this study:

Figure 5. Proposed Research Model



Best Practice on Circular Economy: Naked Cosmetics & Ikea

There are two Circular Economy practices that have been initiated by business actors, namely Lush Cosmetic and IKEA. If these innovative ideas can be effectively communicated to the younger generation, the impact will undoubtedly be amplified. It requires the active involvement and support of the community and various stakeholders such as the government, NGOs, and academics.

'Naked' Cosmetics: Lush Campaigns for Free Plastic Packaging

The Belgian cosmetics company known as "Lush" has made a polite effort to redesign their liquid care products in plastic bottles into solid formulations. They have launched a series of naked campaigns for products such as shampoo, conditioner, body wash, toner, and deodorant. Currently, around 65% of the Lush range is 'naked' or has no wrapping. Since 2005, Lush has sold almost 50 million shampoo bars globally, which has helped to eliminate over 150 million plastic shampoo bottles. They have also created a Lush Labs app that allows customers to access product information like ingredients or directions for use, which has eliminated the need for labeling and packaging.

Circular Furniture and Homewares: IKEA

The furniture company IKEA from Sweden also implements the concept of circular furniture, where most of their furniture collection (60%) is made from renewable materials, with over 10% containing recycled materials. Their objective is to ensure that their products do not generate any harmful waste. Furthermore, IKEA exclusively utilizes materials that can be renewed or recycled until 2030. To assist customers in reusing their products, IKEA has introduced various measures such as offering parts and fittings to extend the lifespan of their products, selling used furniture in-store, and introducing a buy-back program. Customers can obtain online quotes for their old furniture, return the item to an IKEA store, and receive a refund card to use towards new IKEA products.

RESEARCH METHOD

This study employed descriptive and verification methods. The target population of this study was the younger generation residing in Jakarta, Bogor, Bekasi, Tangerang, and Depok. The data used in this study consisted of both secondary and primary sources. Secondary data was obtained from various references to identify the factors influencing the willingness to participate in voicing the prevention of environmental damage. On the other hand, primary data was collected directly from respondents, who were all from the younger generation. The data collection process involved the completion of questionnaires through Google Forms. The questionnaire included several indicators measured using a Likert scale. For sampling, a non-probability sampling method was employed, specifically judgment sampling, as the researcher determined the necessary criteria for selecting respondents. The data were analyzed by SEM-Lisrel.

Measurement Instrument

To measure the research variables, a Likert Scale was used with a level of agreement of five points: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree. The variables used as preliminary research are (1) willingness to participate actively which is define as willingness to become agents of change to implement Circular Economy practices. The dimensions used to measure its variables are activism, private-sphere environmentalism, and order-significant environmental behavior; (2) behavioral approval of Circular Economy practices. The dimensions used to measure its variable are participation and wise use of energy, waste, and water; Intention shows desire to implement CE practices. The dimension used to measure interest in environmentally friendly behavior, plans to carry out environmentally friendly behavior, and apply it in daily life; (3) attitude which is related to the implementation of CE practices. The dimensions of its variables are caring attitude, educational factors that shape attitudes, the experience of joining non-formal communities (NGOs); (4) Perceived Behavioral Control (PBC) is a view in carrying out CE activities which dimensions of its variables are the importance of environmental preservation, environmental quality must be maintained, impact on long-term prosperity, and collaboration; and (5) Perceived Norm (PN) is the social influence that has an impact on CE activity, the dimension of its variables are the influence of the media, government regulations personal awareness, and the influence of people around (community).

RESULTS

This paper aims to explore and gather information in the field about the willingness of the younger generation to participate in certain behaviors. We conducted research with 253 respondents and obtained interesting findings that could be used as a basis for proposing a model to involve the younger generation as agents of change. Most respondents (58%) fall within the age range of 21-25 years, while 37% are aged 15-20 and unmarried. In terms of monthly expenses, 62% have a total of less than Rp1 million, while 37% have between Rp1.1 million and Rp5 million. The respondents come from various locations, including Jakarta, Bogor, Bekasi, Tangerang, and Depok.

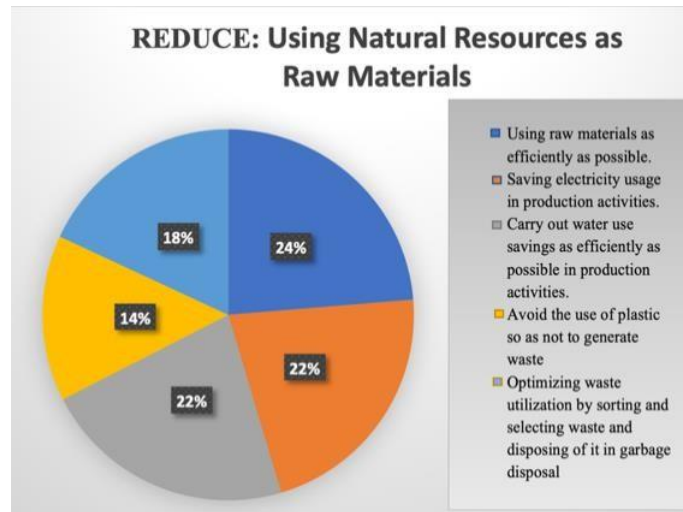
To determine the impact of antecedent variables on participation, we have created a model that includes three key variables: attitude, perceived behavioral control, behavioral intention, and willingness to participate among the younger generation regarding Circular Economy practices.

Circular Economy Practice

There are 5 indicators used to explore the extent to which respondents evaluate circular economic practices, namely reduce, reuse, and recycle.

Reducing Practice

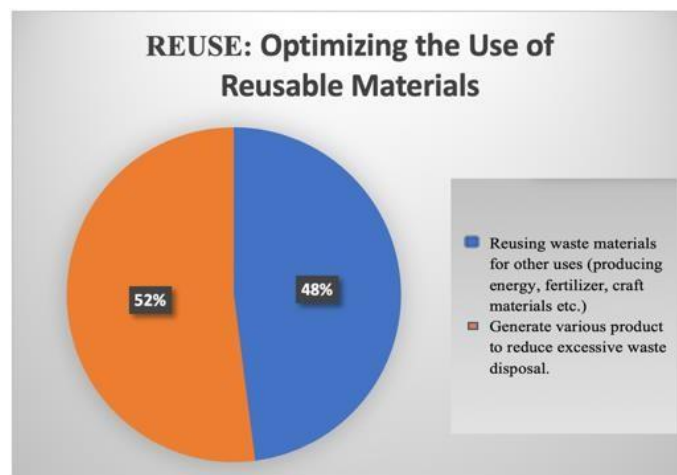
Figure 6. Reduce Practice



The research findings in the field suggest that a large portion of the participants had adopted reduce practices, specifically by utilizing their own shopping bags (44%), refraining from using plastic for waste disposal (31%), and purchasing solid-shaped products without plastic packaging (25%).

Reuse Practice

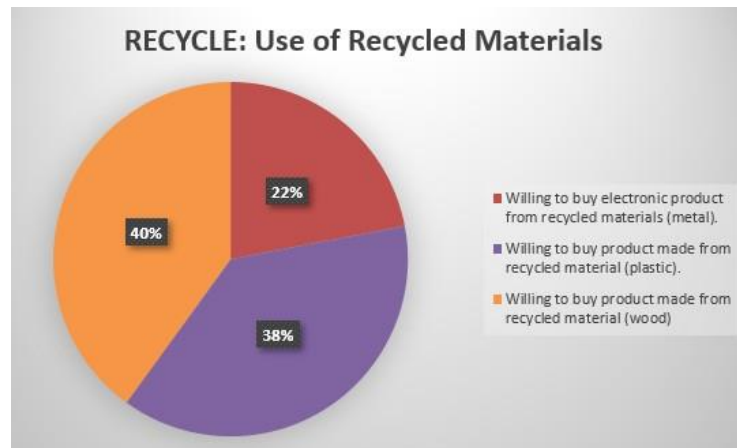
Figure 7. Reuse Practice



Based on the research conducted, it appears that a significant number of respondents have comprehended the concept of Reuse practices, particularly when it comes to reusing disposable items (39%) and bringing their own drink bottles (34%).

Recycle Practice

Figure 8. Recycle Practice



The findings in the field suggest that most respondents possess a good understanding of recycling practices. Specifically, it was observed that a significant proportion of individuals (40% for wood and 22% for plastic) express willingness to purchase recycled products.

Descriptively, this study discovered that individuals demonstrated positive inclinations toward participating in the Circular Economy. Additionally, the study used seven (7) indicators to assess the degree to which individuals were willing to actively promote circular economic practices (refers to Table 3).

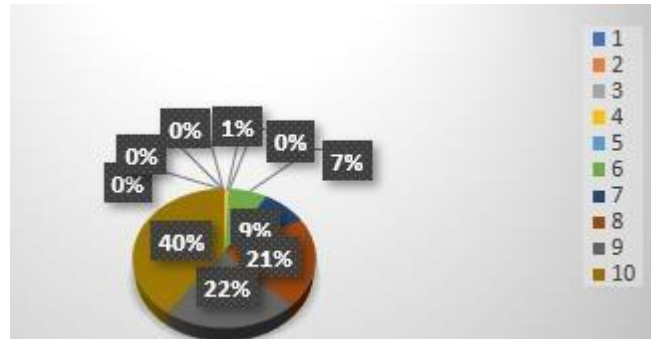
Table 3. Willingness to Participate in Circular Economy

No.	Statement	Response					Total
		1	2	3	4	5	
1.	I want to encourage people to adopt CE principles	0%	0%	0%	33%	54%	87%
2.	I am willing to join the CE caring community	0%	0%	0%	28%	46%	72%
3.	I am going to engage in some new product relating to CE	0%	0%	0%	29%	53%	82%
4.	To prevent further environmental harm, I think the objective to urge others to follow CE practices will be successful	0%	0%	0%	32%	51%	83%
5.	I intend to put in the time and be a role model for creating change using CE practices	0%	0%	0%	37%	47%	84%
6.	I am pleased to be a part of a group that helps raise awareness among others about the value of putting CE practices into practice	0%	0%	0%	30%	54%	84%
7.	I am eager and always willing to participate in CE activities	0%	0%	0%	31%	52%	83%

According to the Table 3, it seems that most of the respondents are willing to participate in the success of CE practices. The range of answers indicating agreement and strong agreement is above 80%. Specifically, many expressed a desire to encourage others to implement CE practices and are willing to dedicate time to set a positive example and be part of communities that care about CE practices, with 84% indicating their willingness

to do so. Another research result, a significant majority of respondents (88%) expressed a strong belief, ranging from 7 to 10, in the success of Circular Economy practices that have a positive impact.

Figure 9. Willingness to Participate in CE



Measurement Models

The validity and reliability of the measurement model were investigated to confirm the accuracy of the model's constructs. Based on the results, it was found that the five factors, including perceived behavioral control, perceived norm, attitude, intention, behavioral, and willingness to participate, exhibit a high level of reliability. Furthermore, all significant measurement variables effectively measure their corresponding latent factors/variables. It is worth noting that each factor has a reliability score of 0.80 or higher.

Table 4. The Validity and Reliability of the Measurement Model

No.	Code	Model				Reliability
		Loading	t.	Error	t.e.	
A. PERCEIVED BEHAVIORAL CONTROL						0.82
1	Pbc1	0.85	23.02	0.30	3.12	
2	Pbc2	0.87	26.17	0.21	2.83	
3	Pbc3	0.85	20.92	0.46	3.07	
4	Pbc4	0.84	19.64	0.78	3.10	
5	Pbc5	0.86	24.65	0.32	2.97	
6	Pbc6	0.86	24.98	0.35	2.97	
B. PERCEIVED NORM						0.82
7	Nor1	0.81	21.94	0.36	3.93	
8	Nor2	0.87	29.41	0.33	2.99	
9	Nor3	0.72	17.54	0.54	5.51	
10	Nor4	0.84	26.16	0.37	3.48	
11	Nor5	0.91	39.40	0.18	2.23	
12	Nor6	0.77	26.01	0.55	5.29	
C. ATTITUDE						0.91
13	Att1	0.93	43.98	0.20	1.81	
14	Att2	0.82	23.42	0.27	3.83	
15	Att3	0.83	25.54	0.35	3.64	
D. INTENTION						0.99
16	Int1	0.94	*	0.13	1.67	
17	Int2	0.95	43.33	0.078	1.29	
18	Int3	0.95	32.83	0.094	1.24	
E. BEHAVIORAL						0.97
19	Bhv1	0.90	*	0.17	2.47	
20	Bhv2	0.92	26.89	0.16	2.01	

21	Bhv3	0.91	24.98	0.13	2.08	
22	Bhv4	0.90	27.10	0.15	2.36	
23	Bhv5	0.88	24.34	0.16	2.68	
F. WILLINGNESS TO PARTICIPATE ACTIVELY						0.96
24	Wac1	0.91	*	0.16	2.18	
25	Wac2	0.89	29.37	0.37	2.69	
26	Wac3	0.93	30.62	0.19	1.84	
27	Wac4	0.89	25.49	0.23	2.55	
28	Wac5	0.93	33.36	0.11	1.81	
29	Wac6	0.94	36.35	0.15	1.70	
30	Wac7	0.95	32.30	0.11	1.34	

The main objective of SEM is to assess the goodness of fit in order to determine how well the hypothesized model aligns with the sample data. The table below displays the fitness index of the model, which includes a probability value (P. 0.039), RMSEA of 0.023, CFI of 1.00, SRMR of 0.061, GFI of 0.66, and PGFI of 0.56. Based on these values, it can be concluded that the model is highly compatible with the data and can be utilized for structural analysis.

Table 5. Model Conformity Index

Index	Criteria	Model
Degrees of Freedom	Relatively small	393
Chi-Square	Relatively small	443.87
Probability	>0,005	0.039
RMSEA	<0,08	0.023
Standardized RMR	<0,08	0.061
Comparative Fit Index (CFI)	>0,95	1.000
Goodness of Fit Index (GFI)	>0,90	0.660
Adjusted Goodness of Fit Index (AGFI)	>0,90	0.600
Parsimony Goodness of Fit Index (PGFI)	>0,90	0.560

Structural Model Analysis

Table 6. Structural Model Equation Parameter Estimation

Model	Dependent Variable	Independent Variable	Coefficient	t	Sig.	R ²
I	INTENTION	PBC	0.38	3.36	*	0.86
		Norm	-0.25	-0.78		
		Attitude	0.84	2.65	*	
II	BEHAVIOR	INTENTIO	0.87	5.74	*	0.81
		PBC	0.14	1.10		
		Attitude	-0.10	-0.82		
III	WAC	BEHAVIOR	0.41	3.59	*	0.83
		PBC	-0.045	-0.37		
		Attitude	0.59	5.44	*	

Note: *) At a significant level of alpha 5%, the value of |t| > 2.00

The structural model equation is as follows:

$$\text{INTENTION} = 0.38 \cdot \text{PBC} - 0.25 \cdot \text{NORM} + 0.84 \cdot \text{ATTITUDE}, R^2 = 0.86$$

$$\text{BEHAVIOR} = 0.87 \cdot \text{INTENTIO} + 0.14 \cdot \text{PBC} - 0.10 \cdot \text{ATTITUDE}, R^2 = 0.81$$

$$\text{WAC} = 0.41 \cdot \text{BEHAVIOR} - 0.045 \cdot \text{PBC} + 0.59 \cdot \text{ATTITUDE}, R^2 = 0.83$$

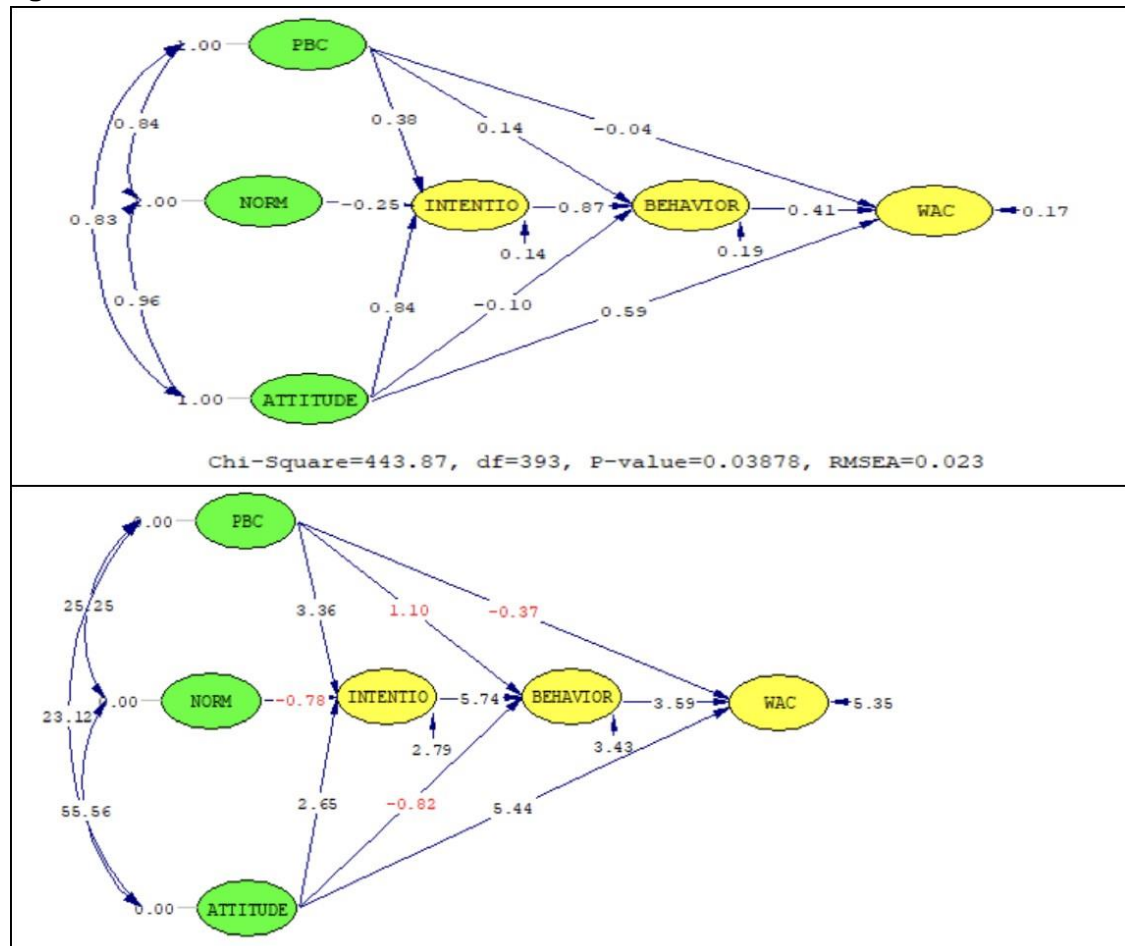
The reduced form model equation (total effect of PBC, NORM, ATTITUDE on INTENTION, BEHAVIOR, WAC) is as follows:

$$\text{INTENTION} = 0.38 \cdot \text{PBC} - 0.25 \cdot \text{NORM} + 0.84 \cdot \text{ATTITUDE}, R^2 = 0.86$$

$$\text{BEHAVIOR} = 0.47 \cdot \text{PBC} - 0.22 \cdot \text{NORM} + 0.63 \cdot \text{ATTITUDE}, R^2 = 0.71$$

$$\text{WAC} = 0.15 \cdot \text{PBC} - 0.091 \cdot \text{NORM} + 0.85 \cdot \text{ATTITUDE}, R^2 = 0.78$$

Figure 10. Structural Model



Based on the findings of the analysis of the structural model equation, it is possible to obtain the results of hypothesis testing to examine the relationships within the structural model. The standardized regression weight values presented in the table below provide insight into the extent of the impact of variable X on Y.

Table 7. Relation Between Variables

	Relation between Variables	Estimate	S.E.	C.R	P	Hypothesis
H1	Perceived Behavioral Control. (PBC) affect Intention on CE	0.38	0.113	3.36	0.001	Supported
H2	Perceived Norm (PN) affects Intention on CE	-0.25	0.321	-0.78	0.436	Not Supported
H3	Attitude affect Intention on CE	0.84	0.317	2.65	0.009	Supported
H4	Perceived Behavioral Control affects Behavioral on CE	0.14	0.127	1.1	0.272	Not Supported
H5	Perceived Behavioral Control affects Attitude on CE	-0.1	0.122	-0.82	0.413	Not Supported
H6	Intention affect Behavioral	0.87	0.152	5.74	0.000	Supported

H7	Perceived Behavioral Control affect willingness to participate on CE	-0.045	0.122	-0.37	0.712	Not Supported
H8	Attitude affect willingness to participate on CE	0.59	0.108	5.44	0.000	Supported
H9	Behavioral affect willingness to participate on CE	0.41	0.114	3.59	0.000	Supported

According to table 7, the effect of PBC on Intention was indicated by the estimated parameter value of the standardized regression weight coefficient which showed a value of 0.38 and a value of CR 3.36. This shows that the PBC factor has a significant impact on intention. In this case, the participant's PBC level is generally high followed by a high level of perception of intention.

The effect of PN on intention was indicated by the estimated parameter value of the standardized regression weight coefficient which showed a value of 0.321 and a value of CR 0.436. These findings indicate that the perceived norm factor is not significant to intention (-0.14). In this case, the level of the participants' perceived norm varies greatly, while the level of the participant's perception of intention is relatively the same.

The effect of attitude on intention was indicated by the estimated parameter value of the standardized regression weight coefficient which showed a value of 0.317 and a value of CR 0.009. These results show a significant effect of attitude on intention. In this case, the level of perception of the attitude of the participants encourages the same level of perception of intention.

The PBC effect on behavior was indicated by the estimated parameter value of the standardized regression weight coefficient which showed a value of 0.127 and a value of CR 0.272. These findings indicate that the direct effect of PBC is not significant on behavior. In this case, the participants' PBC perception level is generally high, not followed by a high level of perception of behavior.

The effect of attitude on behavior was indicated by the estimated parameter value of the standardized regression weight coefficient which showed a value of -.082 and a value of CR 0.413. These findings indicate that the direct effect of attitude is not significant on behavior.

The effect of intention on behavior was indicated by the estimated parameter value of the standardized regression weight coefficient which showed a value of 0.87 and a value of CR 0.00. These findings indicate a significant effect of intention on behavior.

The effect of PBC on willingness to participate in a Circular Economy was indicated by the estimated parameter value of the standardized regression weight coefficient which showed a value of -0.045 and a value of CR 0.712. These findings show that the effect of PBC is not significant on the willingness to participate in a Circular Economy.

The effect of attitude on willingness to participate in a Circular Economy was indicated by the estimated parameter value of the standardized regression weight coefficient which showed a value of 0.59 and a value of CR 0.000. These findings show a significant effect of attitude on the willingness to participate in a Circular Economy.

The effect of behavior on willingness to participate in a Circular Economy was indicated by the estimated parameter value of the standardized regression weight coefficient which showed a value of 0.41 and a value of CR 0.00. These findings show a significant behavioral influence on the willingness to participate in a Circular Economy.

When viewed from the function of the intervening variable, the role of intention and behavior, both effectively play a role as an intervening variable between PBC and Attitude to Willingness to participate in the CE.

DISCUSSION

A research study was conducted on 253 young people to investigate their willingness to participate in CE practices in their daily lives. The results showed that most of the respondents (over 85%) agreed and strongly agreed to participate. Respondents who have already implemented CE practices indicated their willingness to get involved. Most respondents (over 84%) are willing to become agents of change and invite others to join the community. The respondents also showed a high level of confidence (88%) in the success of CE practices. The study highlighted two best practices: (1) One being the "Naked Cosmetics" campaign by Lush, which has redesigned several liquid care products in plastic bottles to be sold in solid formulations, with about 65% of their range now being 'naked'; and (2) The furniture company from Sweden, IKEA, is known for its circular furniture concept which involves using renewable and recycled materials in over 60% of their furniture range. Their goal is to eliminate harmful waste from all their products. To achieve this, they only use renewable or recyclable materials until 2030. In addition, IKEA aims to assist customers in reusing their products by offering parts and fittings to prolong product life. They also sell used furniture in-store and have implemented a buy-back program.

The results from the verification research indicate that the findings align with those from descriptive research. It was found that the attitude factor has a significant impact on intention and behavior and affects willingness to participate. Respondents' positive attitudes and implementation of circular economic activities were motivated by education and environmental community involvement. The respondents' positive attitude towards Circular Economy practices is due to their recognition of the importance of reducing environmental damage. Perceived behavioral control, represented by Circular Economy practices such as waste reduction, pollution prevention, natural resource protection, and waste disposal, also has a significant impact on intention, behavior, and willingness to participate.

Positive attitudes and a strong sense of perceived behavioral control were found to be important factors in this research, as they significantly influence the intention to adopt CE practices. This intention is reflected in a strong interest in supporting and implementing CE practices in daily activities. Additionally, this intention will lead to behavioral actions such as reducing material use, reusing old materials, and utilizing recycled and repaired materials. The study's results demonstrate that actively implementing CE practices greatly influences the willingness to participate, as evidenced by actions such as encouraging others to adopt these practices, joining communities that promote a CE, incorporating these practices into daily life, dedicating time and being committed, setting a positive example, and engaging in various activities to support the CE movement (Camacho-Otero et al., 2017).

Another interesting finding from this research is that perceived norms do not have a significant effect on intention, behavior, and willingness to participate. Perceive norms indicate the extent to which social (external) influences have an impact on the acceptance of CE practices. The findings of perceived norms among the younger generation still do not show positive things related to awareness of the application of ES due to media influence, doubts about government regulations to support CE practices, not having sufficient knowledge about CE practices, not fully growing awareness of

preventing environmental damage through the application of CE practices in daily life, the environmental push is not strong enough to implement CE practices.

The research findings suggest several significant aspects, particularly that having a positive attitude and strong perceived behavior norms can positively influence intentions and behaviors that promote the willingness of the younger generation to engage in CE practices. When considering the statistical calculations of the intervening variables, the roles of intention and behavior effectively serve as intervening variables linking PBC and willingness to participate in a Circular Economy.

The research findings suggest that involving the younger generation can help accelerate the implementation of CE practices. These results align with previous research by Boyer et al. (2021) which highlighted the importance of recognizing the motivators and barriers of the younger generation as a key demographic for driving change. Indonesia's young population of 54 million offers a potential opportunity to involve this segment. Barbosa et al. (2014) suggest that young people are a suitable target for research as they generally have better environmental awareness and education than previous generations. The other study by Masdar (2016) has also shown that the younger generation is interested in environmental issues and actively implements eco-friendly behavior. Amnesty International has identified climate change, pollution, and loss of natural resources as issues that motivate the younger generation to become agents of change in the context of the SDGs.

CONCLUSION

The findings of this research provide valuable insights into the challenges and gaps in implementing CE practices, particularly in terms of consumer acceptance and the attitudes of younger generations. The study highlights the importance of understanding consumer behavior and using behavioral theory in research. The results show that the younger generation has a positive attitude and perceived behavioral control toward implementing CE practices, which has a significant impact on their willingness to participate. As Indonesia has many young people, they can be targeted for campaigns promoting CE practices. However, more work needs to be done to deepen their understanding of the perceived norm aspect. These findings can be used as a basis for future research to support the development of behavioral theories and concepts in the CE context, particularly in empowering younger generations as agents of change.

ACKNOWLEDGEMENT

The research is funded by Research Grant from Universitas Terbuka.

DECLARATION OF CONFLICTING INTERESTS

We declare no potential conflicts of interest concerning the study, authorship, and/or publication of this article.

REFERENCES

- Ajzen, I. (1980). From Intentions to Actions: A Theory of Planned Behavior. In J. Kuhl & J. Beckmann (Eds.), *SSSP Springer Series in Social Psychology*. Springer.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (2012). Martin Fishbein's legacy: The Reasoned Action Approach. *The ANNALS of the American Academy of Political and Social Science*, 640(1), <https://doi.org/10.1177/0002716211423363>
- Barbosa, L., Portilho, F., Wilkinson, J., & Dubeux, V. (2014). Trust, participation and

- political consumerism among Brazilian youth. *Journal of Cleaner Production*, 63, 93-101. <https://doi.org/10.1016/j.jclepro.2013.08.044>
- Boyer, R. H. W., Agnieszka, D. H., & Whalen, K. A. (2021). Consumer demand for circular products: Identifying customer segments in the Circular Economy. *Sustainability*, 13(2), 1-18. <https://doi.org/10.3390/su132212348>
- BPS (Badan Pusat Statistik). (2021). *Statistik Pemuda Indonesia 2021*. <https://www.bps.go.id/publication/2021/12/21/52333d2ce0a748fff6469811/statistik-pemuda-indonesia-2021.html>
- Camacho-Otero, J., Pettersen, I. N., & Boks, C. (2017). Consumer and User Acceptance in the Circular Economy: What are researchers missing?. *Proceedings of PLATE Conference: Product Lifetimes and the Environment*, 65-69. <https://doi.org/10.3233/978-1-61499-820-4-65>
- Ellen MacArthur Foundation. (2013). *Towards the Circular Economy, Opportunities for the Consumer Goods Sector*. <https://ellenmacarthurfoundation.org/towards-the-circular-economy-vol-2-opportunities-for-the-consumer-goods>
- Fishbein, M., & Ajzen, I. (2011). *Predicting and Changing Behavior: The Reasoned Action Approach*. Psychology Press.
- Fu, J.-R., Ju, P.-H., & Hsu, C.-W. (2015). Understanding why consumers engage in electronic word-of-mouth communication: Perspectives from theory of planned behavior and justice theory. *Electronic Commerce Research and Applications*, 14(6), 616-630. <https://doi.org/10.1016/j.elerap.2015.09.003>
- Kemenperin RI (Kementerian Perindustrian Republik Indonesia). (2019). *Industri Berperan Ciptakan Indonesia Bersih Lewat Konsep 'Circular Economy'*. <https://kemenperin.go.id/artikel/20324/Industri-Berperan-Ciptakan-Indonesia-Bersih-Lewat-Konsep-Circular-Economy>
- Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the Circular Economy: An analysis of 114 definitions. *Resources, Conservation & Recycling*, 127, 221–232. <https://doi.org/10.1016/j.resconrec.2017.09.005>
- Kuah, A. T. H., & Wang, P. (2019). Circular Economy and customer acceptance: An exploratory study in Southeast Asia. *Journal of Cleaner Production*. <https://doi.org/10.1016/j.jclepro.2019.119097>
- LCDI (Low Carbon Development Indonesia). (2021). *The Economic, Social and Environmental Benefits of a Circular Economy in Indonesia*. Indonesia, LCDI. <https://lcdi-indonesia.id/wp-content/uploads/2021/02/Full-Report-The-Economic-Social-and-Environmental-Benefits-of-a-Circular-Economy-in-Indonesia.pdf>
- Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). Circular Economy – A new sustainability paradigm?. *Journal of Cleaner Production*, 143, 757-768. <https://doi.org/10.1016/j.jclepro.2016.12.048>
- Hamdie, K. M., Koroy, T. R., Arifin, Z., Muslim, M., & Naviri, T. (2022). The analysis of determinants of compliance in mandatory manpower report with Theory of Planned Behavior and Institutional Theory. *Journal of International Conference Proceedings*, 5(38), 385-399. <https://doi.org/10.32535/ijcp.v5i1.1475>
- Masdar. (2016). *Engaging with the Green Generation: Masdar Gen Z Global Sustainability Survey*. Uni Arab Emirates, Masdar: A Mubadala Company. https://masdar.ae/-/media/corporate/downloads/wiser/masdar_gen_z_global_sustainability_survey_white_paper.pdf
- Mies, A., & Gold, S. (2021). Mapping the social dimension of Circular Economy. *Journal of Cleaner Production*, 321. <https://doi.org/10.1016/j.jclepro.2021.128960>
- Nguyen, Q. A., Hens, L., MacAlister, C., Johnson, L., Lebel, B., Tan, S. B., ..., & Lebel, L. (2018). Theory of Reasoned Action as a framework for communicating climate risk: A case study of schoolchildren in the Mekong Delta in Vietnam. *Sustainability*, 10(6). <https://doi.org/10.3390/su10062019>
- OECD (Organisation for Economic Co-operation and Development). (2008). *Promoting Sustainable Consumption – Good Practices in OECD Countries*.

- <https://www.oecd.org/greengrowth/40317373.pdf>
- Rizki, T., & Hartanti, D. (2021). Environmental responsibility, green innovation, firm value: Asean-5. *Journal of International Conference Proceedings*, 4(3), 464-476. <https://doi.org/10.32535/jicp.v4i3.1349>
- Silva, F. C., Shibao, F. Y., Kruglianskas, I., Barbieri, J. C., & Sinisgalli, P. A. A. (2019). Circular Economy: Analysis of the implementation of practices in the Brazilian network. *Revista de Gestão*, 26(1), 39-60. <https://doi.org/10.1108/REGE-03-2018-0044>
- Singh, M. P., Chakraborty, A., & Roy, M. (2018). Developing an extended TPB model to explore Circular Economy in MSMEs India. *Journal of Resources Conservation & Recycling*, 135, 313-322. <https://doi.org/10.1016/j.resconrec.2017.07.015>
- Stern, P. C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407-424.
- Su, B., Heshmati, A., Geng, Y., & Yu, X. (2013). A review of the Circular Economy in China: Moving from rhetoric to implementation. *Journal of Cleaner Production*, 42, 215-227. <https://doi.org/10.1016/j.jclepro.2012.11.020>
- Tim detikcom. (2021, November 1). OP26 adalah Pertemuan Perubahan Iklim, Apa Saja Hasil yang Diharapkan?. *detikNews*. <https://news.detik.com/berita/d-5791362/cop26-adalah-pertemuan-perubahan-iklim-apa-saja-hasil-yang-diharapkan?single=1>
- UNEP (United Nations Environment Programme). (2015). *Sustainable Consumption and Production. A Handbook for Policymakers* (Global ed.). UNEP Publications.
- Van Stekelenburg, J., & Klandermans, B. (2017). Individuals in Movements: A Social Psychology of Contention. In C. Roggeband & B. Klandermans (Eds.), *Handbook of Social Movements Across Disciplines* (pp. 103-139).
- Vrontis, D., Makrides, A., Christofi, M., & Thrassou, A. (2021). Social media influencer marketing: A systematic review, integrative framework and future research agenda. *International Journal of Consumer Studies*, 45(4), 617-644. <https://doi.org/10.1111/ijcs.12647>
- Wastling, T., Charnley, F., & Moreno, M. (2018). Design for circular behaviour: considering users in a Circular Economy. *Sustainability*, 10(6), 1-22. <https://doi.org/10.3390/su10061743>
- Wisker, Z. L. (2018). The effects of environmental orientation on firm performance and a mediating role of employee-based brand equity: A comparative study. *International Journal of Applied Business & International Management*, 3(2), 19-34. <https://doi.org/10.32535/ijabim.v3i2.157>
- Zsóka, A., Szerényi, Z. M., Széchy, A., & Kocsis, T. (2013). Greening due to environmental education? Environmental knowledge, attitudes, consumer behavior and everyday pro-environmental activities of Hungarian high school and university students. *Journal of Cleaner Production*, 48, 126-138. <https://doi.org/10.1016/j.jclepro.2012.11.030>