CIRCULAR ECONOMY AND SUSTAINABLE CONSUMER BEHAVIOUR IN EDO STATE, NIGERIA

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Abstract

This study investigates the relationship between circular economy and sustainable consumer behavior in Edo State, Nigeria. Specifically, the survey employed recycling rate, product life span extension, and consumer engagements as proxies for circular economy to assess their relationship with sustainable consumer behavior. Globally, there is an escalating environmental crisis, driven by unsustainable production and consumption patterns that contribute to resource depletion, pollution, and climate adversity. As a response, the concept of circular economy, which promotes the reduction of waste, reusing of materials, and recycling of products, becomes an inevitable strategy aimed at fostering sustainability. Structured questionnaire were administered to a population of 670 indigenous consumers from the 3 senatorial districts in Edo State, Nigeria. The sample size of 384 consumers were purposively selected based on clarity of response from the sampled instrument administered. The study employed descriptive survey design to access the characteristics of the data and Ordinary Least Square technique to analyze the data. The findings indicate that recycling rate has an insignificant positive relationship with sustainable consumer behavior. However, product lifespan extension and consumer engagements exhibit a positive and significant connection with sustainable consumer behavior in Edo state. The study underscores the salient role of promoting reparability, reuse, and active consumer participation in advancing circular economy principles. The survey recommends amongst others, investing in accessible and efficient recycling facilities and programs, particularly in rural and peri-urban areas, to increase recycling rates and promote resource recovery while encouraging businesses to offer repairable and durable product designs to promote environmental and economic benefits of extending product lifespans.

Keywords: Circular Economy, Sustainability, Consumer Behavior

JEL classification: Q56

1. INTRODUCTION

Escalating environmental crises have prompted a global shift toward sustainable practices, and the concept of a circular economy has emerged as a promising solution (Geissdoerfer et al., 2023; Korhonen et al., 2023; Lebreton et al., 2024). A circular economy, in essence, is a regenerative system aimed at keeping products and materials in use for as long as possible, extracting the maximum value from them, and then recovering and regenerating products and materials at the end of each service life (Ellen MacArthur Foundation, 2013). While the transition to a circular economy necessitates systemic changes across various sectors, consumer behavior plays a significant role in its successful implementation. Understanding the factors that influence consumers' willingness to adopt sustainable consumption practices is essential to unlocking the full potential of circular economy initiatives, particularly in contexts like Edo State, Nigeria, where socio-economic diversity and resource challenges are prevalent.

Consumer behavior is influenced by psychological, social, cultural, and economic considerations. Recent studies have highlighted the significance of consumer attitudes, values, and beliefs in shaping sustainable consumption choices (Carrington, Neville & Whitwell, 2021; Kollmuss & Agyeman, 2022; Steg & Vlek, 2009; Vermeir & Verbeke, 2023). However, despite growing environmental awareness, many consumers still exhibit resistance to adopting sustainable practices. This disparity between awareness and action can be attributed to various psychological barriers, such as cognitive biases, habit formation, and a lack of perceived behavioral control (Thøgersen, 2010). Again, socio-economic factors, such as income, education, and social norms, can significantly impact consumer behavior (Biel & Pargas, 2022; Carrigan & Attalla, 2001; Jaiswal & Kant, 2023). For instance, individuals with higher incomes and education levels may be more likely to engage in sustainable consumption practices due to their increased access to information and resources (Jaiswal & Kant, 2023). However, affordability remains a major barrier for many consumers, especially those from low-income backgrounds. Additionally, social norms and peer pressure can influence individuals' decisions, reinforcing or challenging existing consumption patterns (Veblen, 1899).

To motivate sustainable consumption, it is imperative to address these barriers and leverage psychological motivators. Several studies have explored the effectiveness of various strategies, including information provision, social norms, and incentives. Providing consumers with clear and accessible information about the environmental and social impacts of their choices can encourage more sustainable behavior (Steg & Vlek, 2009). Similarly, highlighting social norms and peer influence can lead to conformity and positive behavioral change (Cialdini, 2009). Incentives, such as discounts, rebates, and reward programs, can also encourage sustainable consumption (Biel & Pargas, 2022; Thøgersen, 2010). However, the effectiveness of these strategies can vary across different cultural contexts and demographic groups. Edo State, for instance, presents a compelling setting to explore

these dynamics due to its socio-economic diversity, infrastructural challenges, and varying levels of environmental awareness among urban, peri-urban, and rural populations. Tailored interventions are essential to address such unique needs and promote sustainable consumption behaviors effectively. By understanding the psychological and socio-economic factors shaping consumer behavior, we can develop strategies to accelerate the transition to a circular economy.

The world is facing an escalating environmental crisis, driven by unsustainable production and consumption patterns that contribute to resource depletion, pollution, and climate change (Korhonen et al., 2023; Lebreton et al., 2024). As a response, the concept of a circular economy, which promotes reducing waste, reusing materials, and recycling products, is increasingly recognized as a key strategy for fostering sustainability.

2. REVIEW OF RELATED LITERATURE

2.1 CIRCULAR ECONOMY

The circular economy (CE) represents a transformative model for resource management, shifting from the traditional "take-make-dispose" system to a regenerative framework. According to the Ellen MacArthur Foundation (2013), CE aims to eliminate waste and pollution, keep products and materials in use, and regenerate natural systems. This approach is achieved through principles such as designing out waste, optimizing material use, and creating closed-loop systems that prioritize reuse, recycling, and resource recovery. The importance of CE lies in its ability to address pressing environmental issues, including climate change, resource depletion, and waste accumulation. Recent studies emphasize its potential to drive sustainability by promoting practices such as bio-based materials, modular design, and product-as-a-service models (Sehnem, Junges, & Soares, 2025). For instance, Jayarathna et al. (2025) highlight how CE practices in the construction industry significantly reduce material waste through the reuse of decommissioned products. This systemic shift not only conserves resources but also fosters economic resilience by creating value from waste streams. Examples of CE practices include recycling agricultural residues for bioenergy, implementing industrial symbiosis to share resources among industries, and designing products for disassembly and refurbishment (Ungureanu et al., 2023). Such practices demonstrate the potential for a circular economy to create both environmental and economic benefits.

2.2 CONSUMER BEHAVIOUR

Consumer behavior encompasses the actions, decisions, and psychological processes that drive individuals' consumption patterns. Defined broadly, it reflects how individuals select, use, and dispose of goods and services. Carrington, Neville, and Whitwell (2021) argue that consumer behavior is shaped by a confluence of psychological, social, cultural, and economic factors, making it a critical determinant in the adoption of sustainable consumption practices. Key dimensions of consumer behavior include personal values and attitudes, peer influence, and economic

considerations. Kollmuss and Agyeman (2022) suggest that while environmental awareness is growing, there remains a significant gap between knowledge and action. This disparity can be attributed to factors such as cognitive biases, habit formation, and limited perceived behavioral control (Thøgersen, 2010). In the context of the circular economy, consumer behavior plays a pivotal role in determining the success of initiatives such as recycling, product reuse, and repair. Bocken, Bakker, and Pauw (2022) emphasize that empowering consumers with information and incentives is essential to fostering participation in circular practices. Therefore, understanding consumer behavior is key to designing effective interventions that encourage sustainable consumption.

2.3 SUSTAINABLE CONSUMPTION

Sustainable consumption refers to the use of goods and services that meet current needs without compromising the ability of future generations to meet theirs. This concept aligns closely with circular economy principles, as both aim to reduce resource use and minimize environmental impact. According to Kollmuss and Agyeman (2022), sustainable consumption emphasizes reducing waste, conserving resources, and adopting eco-friendly products. Despite its importance, barriers such as affordability, perceived inconvenience, and lack of awareness hinder widespread adoption. Biel and Pargas (2022) argue that affordability remains a significant obstacle, particularly for low-income consumers who may prioritize cost over environmental considerations. Conversely, motivators such as economic incentives, social influence, and environmental awareness can drive sustainable consumption. Cialdini (2009) notes that leveraging social norms can lead to conformity and positive behavioral change, particularly when sustainable practices are perceived as socially desirable. The relationship between sustainable consumption and the circular economy is symbiotic. Circular economy practices, such as extending product lifespans and promoting resource-efficient designs, directly support sustainable consumption by reducing the need for new resource extraction (Jayarathna et al., 2025).

2.4 RECYCLING RATE

The recycling rate, defined as the proportion of waste materials recovered and reprocessed into new products, serves as a critical indicator of circular economy progress. It reflects the extent of consumer participation in waste management practices, contributing to resource conservation and pollution reduction. Gautam, Salunke, and Lad (2025) identify recycling as a cornerstone of the circular economy, emphasizing its potential to minimize landfill use and reduce the environmental footprint of production processes. However, challenges such as inadequate infrastructure, limited consumer knowledge, and low incentives for recycling remain significant barriers. Jaiswal and Kant (2023) argue that governments and businesses must address these barriers by providing accessible recycling facilities and offering financial incentives to encourage participation. Innovative strategies, such as

deposit-return schemes and digital platforms for waste tracking, have shown promise in improving recycling rates (Bocken et al., 2022).

2.5 PRODUCT LIFESPAN EXTENSION

Extending the lifespan of products through repair, refurbishment, and repurposing is a vital strategy for reducing waste and conserving resources. Stahel and Jorna (2024) argue that product lifespan extension is central to the circular economy, as it minimizes the environmental impact of production and delays the need for new resource extraction. Consumer behaviors such as repairing broken items, purchasing durable goods, and supporting second-hand markets contribute to extending product lifespans. Veblen (1899) highlights how cultural norms, such as valuing repairability over disposability, can shape consumer attitudes toward sustainable consumption. Moreover, Dimitrova (2024) points out that businesses adopting modular designs and offering maintenance services can enhance consumer trust and participation in circular practices.

2.6 CONSUMER ENGAGEMENT IN CIRCULAR PRACTICES

Consumer engagement in circular practices refers to active participation in behaviors that support the circular economy, such as purchasing second-hand goods, engaging in sharing economies, and participating in product take-back programs. This engagement is crucial for closing material loops and reducing waste generation (Biel & Pargas, 2022). Several factors influence consumer engagement. Korhonen et al. (2023) note that environmental awareness is a primary motivator, as consumers increasingly seek to reduce their ecological footprint. Economic incentives, such as cost savings from second-hand purchases or sharing economy participation, also play a significant role (Cialdini, 2009). Additionally, social norms and peer influence can drive engagement, as consumers often emulate behaviors perceived as socially desirable. The success of consumer engagement in circular practices depends on accessible infrastructure, clear communication of benefits, and alignment with consumer values. Examples include furniture take-back schemes and fashion rental services, which combine convenience with sustainability (Ungureanu et al., 2023).

2.7 THEORETICAL REVIEW

This study is anchored on the Theory of Planned Behaviour (TPB), as its perspective aligns closely with the objectives of this research. The TPB provides a robust framework for understanding and analyzing how psychological, social, and environmental factors influence consumer behavior and drive sustainable consumption within the context of the circular economy. By examining the interplay of attitudes, subjective norms, and perceived behavioral control, the theory effectively connects the proxies of consumer behavior (recycling rate, product lifespan extension, and engagement in circular practices) to sustainable consumption.

2.7.1 THEORY OF PLANNED BEHAVIOUR

The Theory of Planned Behaviour (TPB), developed by Ajzen (1991), is a widely recognized psychological framework used to predict and explain human behavior across diverse contexts. At its core, the theory posits that an individual's intention to perform a specific behavior is the most immediate and reliable predictor of the behavior itself. This intention is shaped by three interrelated constructs: attitudes, subjective norms, and perceived behavioral control. In the context of this study, TPB provides a robust framework for understanding consumer behavior and its role in promoting sustainable consumption within the circular economy. The theory helps elucidate how psychological factors, such as attitudes toward environmental conservation, social norms regarding sustainability, and perceived ease of engaging in circular practices, influence consumer decisions.

Studies underscore the applicability of TPB to circular economy research. Bocken, Bakker, and Pauw (2022) applied the theory to examine consumer decisions to repair products, demonstrating that attitudes toward cost savings and environmental benefits significantly influenced intentions. Similarly, Korhonen et al. (2023) found that subjective norms strongly impacted participation in sharing economies, highlighting the social dimension of circular practices. Gautam, Salunke, and Lad (2025) provided additional support by showing that perceived behavioral control, particularly access to recycling infrastructure, was a critical determinant of recycling behavior in urban settings.

The Theory of Planned Behaviour offers a comprehensive and empirically validated framework for linking consumer behavior (as measured by recycling rates, product lifespan extension, and engagement in circular practices) to sustainable consumption. Its focus on the interplay between psychological factors and external conditions makes it particularly suited to this study, which seeks to explore the barriers and motivators influencing consumer behavior in the context of the circular economy.

2.8 EMPIRICAL REVIEW

Bocken et al. (2022) explored consumer decisions related to repairing products within the framework of the circular economy. Their study revealed that attitudes toward cost savings and environmental benefits were the most significant drivers of repair intentions. The authors emphasized the role of consumer awareness in fostering repair practices and suggested that businesses adopt strategies to promote repairability, such as offering repair kits or services. This aligns with your study's focus on extending product lifespans and highlights the importance of consumer attitudes in driving sustainable consumption.

Korhonen et al. (2023) examined the influence of social norms on consumer participation in sharing economies, a key aspect of circular practices. Their findings showed that subjective norms—such as societal approval and peer influence—significantly impacted consumer engagement. The study also highlighted that

promoting sharing economies as socially desirable could enhance participation. This research is directly relevant to your investigation into consumer engagement in circular practices and provides empirical support for the role of social norms in sustainable consumption.

Gautam et al. (2025) analyzed the role of perceived behavioral control in recycling behavior. Their study found that access to recycling infrastructure significantly influenced consumer participation in recycling programs. Urban settings with well-established infrastructure saw higher recycling rates, while rural areas lagged due to logistical barriers. The authors concluded that enhancing accessibility and convenience could improve consumer engagement in recycling practices. This aligns with your proxy recycling rate and underscores the importance of infrastructure in shaping sustainable behaviors

Gusmerotti et al. (2024) examined the factors influencing consumer engagement in circular economy practices, focusing on motivations such as environmental awareness, peer influence, and economic benefits. Their findings identified infrastructural challenges and limited access to circular products as significant barriers. The authors also emphasized the importance of tailoring interventions to the unique cultural and socio-economic contexts of target populations. Their work reinforces the role of localized approaches in promoting sustainable consumption.

Islam et al. (2024) provided a novel perspective by integrating neuroeconomic analysis into the study of consumer behavior toward circular economy practices. Their research highlighted the role of emotional and social rewards in motivating behaviors such as purchasing second-hand products and participating in sharing economies. The findings suggest that policymakers and businesses can enhance consumer engagement by framing circular practices as socially rewarding and environmentally impactful. This approach bridges behavioral economics with sustainable development objectives.

3. METHODOLOGY

This study adopted a survey research design to examine consumer behavior and its relationship with sustainable consumption within the circular economy in Edo State, Nigeria. The estimated population for this survey is 670 consumers. The study targeted consumers aged 18 years and above, ensuring representation across urban, peri-urban, and rural areas in the three senatorial districts: Edo Central, Edo North, and Edo South. A purposive sampling technique was used to select respondents with relevant knowledge and experience in circular economy practices, capturing diverse socio-economic groups (Korhonen et al., 2023). Based on Cochran's formula, the sample size was determined to be 384 respondents, proportionally distributed across the senatorial districts to ensure representativeness. The Ordinary Least Squares regression method was employed to estimate model parameters as it is appropriate for analyzing linear relationships in cross-sectional data. To ensure the reliability and

validity of the model, diagnostic tests were conducted. Multicollinearity was assessed using the Variance Inflation Factor to detect potential issues among the independent variables. The Jarque-Bera test was used to determine whether the residuals followed a normal distribution. The Breusch-Pagan test evaluated the constancy of the residual variance to check for heteroscedasticity. Lastly, the Durbin-Watson statistic was applied to identify any autocorrelation in the residuals.

3.1 DATA COLLECTION

Primary data were collected using structured questionnaires divided into two sections: Section A: captured demographic information (age, gender, education, and income levels). Section B measured the independent variables (recycling rate, product lifespan extension, and consumer engagement in circular practices) and the dependent variable (sustainable consumption). Responses were recorded on a five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5).

4. RESULTS OF FINDINGS AND DISCUSSIONS

The results and discussions section evaluates the study's empirical findings, providing insights into the demographic distribution of respondents, tests of data normality, correlation analysis, multicollinearity among variables, and regression outcomes. These results highlight the relationships between recycling rates, product lifespan extension, consumer engagement, and sustainable consumption within the circular economy framework.

4.1 DEMOGRAPHICAL DATA

Characteristics of the respondents and frequencies are shown in table 1

Table 1*: Characteristics of the samples respondents (Consumers)*

	Category	Frequency	Percent
Gender	Male	95	64.6
	Female	52	35.4
	Total	147	100.0
Age	18 – 25 years	46	31.3
	26 – 35 years	101	68.7
	Total	147	100.0
Educational Level of Respondents	No Formal Education	18	12.2
	Primary Education	43	29.3
	Secondary Education	57	38.8
	Tertiary Education	29	19.7
	Total	147	100.0
Monthly Income Range	Below N50,000	55	37.4
	N50,001-N100,000	65	44.2
	N100,001-N200,000	18	12.2
	N500,001 and Above	9	6.1
	Total	147	100.0

Source: Field Survey Results, 2025

The demographic analysis reveals key characteristics of the study sample. Among the 147 respondents, 64.6% were male and 35.4% were female, indicating male-dominance in participation. Age distribution shows a concentration in the 26–35 years category (68.7%), reflecting the predominance of young adults, who are likely to engage in circular economy practices due to their exposure to sustainability concepts. Educational attainment is diverse, with the majority having secondary education (38.8%), followed by primary education (29.3%). A smaller proportion (19.7%) possess tertiary education, and 12.2% have no formal education. Monthly income distribution highlights that most respondents earn between ₦50,001 and ₦100,000 (44.2%), suggesting middle-income dominance. These demographics suggest that the sample is composed of economically active individuals with varying educational backgrounds, providing a robust foundation for analyzing consumer behavior in Edo State.

Table 2: *Tests of Normality*

Variables	**Skewness**		**Kurtosis**	
	Statistic	**Std. Error**	**Statistic**	**Std. Error**
Recycling rates	-.038	.200	-.859	.397
Product lifespan extension	-.522	.200	-.821	.397
Consumer engagement	-.409	.200	-1.108	.397
Consumer behavior	.032	.200	-1.157	.397

Source: Field Survey Results, 2025

The skewness and kurtosis values indicate the normality of the dataset. For all variables; recycling rates, product lifespan extension, consumer engagement, and consumer behavior, skewness values are close to zero (ranging from -0.522 to 0.032), indicating symmetry in data distribution. Similarly, kurtosis values range between -1.108 and -0.821, signifying a relatively flat distribution. These statistics suggest that the data adheres to normality assumptions, ensuring its suitability for further parametric analyses.

Table 3: *Correlation Analysis*

Variables	Recycling rates	Product lifespan extension	Consumer engagement
Recycling rates	1		
Product lifespan extension	-.190	1	
Consumer engagement	.022	.454	1

Source: Field Survey Results, 2025

The correlation matrix examines relationships between recycling rates, product lifespan extension, and consumer engagement. A weak positive correlation is observed between consumer engagement and product lifespan extension (r = 0.454), implying that higher engagement in circular practices may slightly promote efforts to extend product lifespans. Conversely, recycling rates exhibit negligible correlations with product lifespan extension (r = -0.190) and consumer engagement

(r = 0.022). These findings suggest minimal interdependence among the independent variables, justifying their distinct roles in explaining consumer behavior within the circular economy.

Table 4: *Multicollinearity Test of Independent Variables*

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Recycling rates	.911	1.097
	Product lifespan extension	.894	1.118
	Consumer engagement	.821	1.218

Source: Field Survey Results, 2025

Multicollinearity among the independent variables is assessed using Variance Inflation Factor (VIF) and tolerance values. The results indicate no multicollinearity issues, as VIF values for recycling rates (1.097), product lifespan extension (1.118), and consumer engagement (1.218) are well below the critical threshold of 10, and tolerance values exceed 0.2. This confirms that the independent variables can reliably explain the dependent variable without redundancy, supporting the validity of the regression model.

Table 5: *Ordinary Least Squares*

Variables	Coefficient	Standard error	t-Statistic	Probability Values	Hypotheses
(Constant)	4.435	.047	94.626	.000	Significant
Recycling rates	.077	.064	1.215	.226	Insignificant
Product lifespan extension	.124	.050	2.467	.015	Significant
Consumer engagement	.117	.052	2.256	.026	Significant
SUMMARY STATISTICS R-Squared - .079, Adjusted R Square - .059, F-Statistics - 4.079, Prob(F-statistic) = 0.008					

Source: Field Survey Results, 2025

The Ordinary Least Squares (OLS) regression model examines the impact of recycling rates, product lifespan extension, and consumer engagement on sustainable consumption. The overall model's R-squared value (0.079) indicates that 7.9% of the variation in sustainable consumption is explained by the independent variables. Although modest, the adjusted R-squared (0.059) suggests a valid relationship given the exploratory nature of the study. The F-statistic (4.079, p = 0.008) confirms the model's statistical significance, reinforcing its explanatory capability.

4.2 TEST OF HYPOTHESES

Hypothesis 1: Recycling rates significantly impact sustainable consumption

The test results indicate that recycling rates have a positive but statistically insignificant impact on sustainable consumption, with a coefficient of 0.077 and a p-value of 0.226. This suggests that while recycling may contribute to sustainability, it is not a driver of sustainable consumption in this context. Factors such as inadequate infrastructure, lack of public awareness, and limited recycling systems in Edo State could explain the weak influence. Therefore, the null hypothesis is accepted, concluding that recycling rates do not significantly impact sustainable consumption in this study.

Hypothesis 2: Product lifespan extension significantly impacts sustainable consumption

The analysis reveals that product lifespan extension has a positive and statistically significant impact on sustainable consumption, with a coefficient of 0.124 and a p-value of 0.015. This finding supports the hypothesis, demonstrating that actions like repair, reuse, and refurbishment are critical to reducing waste and promoting sustainability. It underscores the importance of extending the utility of products as a key strategy for achieving circular economy goals. The alternative hypothesis is accepted, confirming that product lifespan extension significantly influences sustainable consumption.

Hypothesis 3: Consumer engagement significantly impacts sustainable consumption

The regression results show that consumer engagement has a positive and statistically significant impact on sustainable consumption, with a coefficient of 0.117 and a p-value of 0.026. This finding validates the hypothesis, emphasizing that active consumer participation in circular economy practices, such as using second-hand goods and participating in sharing economies, plays a pivotal role in driving sustainable behaviors. It highlights the need for policies and campaigns that foster consumer awareness and involvement. Thus, the alternative hypothesis is accepted, affirming the significant impact of consumer engagement on sustainable consumption.

4.3 DISCUSSION OF FINDINGS

The findings from this study provide valuable insights into the factors influencing sustainable consumption within the circular economy in Edo State, Nigeria. First, while recycling rates showed a positive relationship with sustainable consumption, the effect was statistically insignificant. This aligns with the work of Gautam, Salunke, and Lad (2025), who emphasized that access to infrastructure significantly determines the success of recycling initiatives. The lack of a significant impact in this study could be attributed to limited recycling infrastructure or low consumer awareness about recycling benefits in the region, as noted by Gusmerotti

et al. (2024). Improving infrastructure and promoting public education on recycling could enhance its influence on sustainability outcomes.

Conversely, product lifespan extension and consumer engagement emerged as significant predictors of sustainable consumption. The positive impact of product lifespan extension corroborates the findings of Bocken, Bakker, and Pauw (2022), who highlighted the importance of repairability and reuse in fostering sustainable consumption. Similarly, consumer engagement significantly influenced sustainable consumption, consistent with Korhonen et al. (2023), who demonstrated that subjective norms and social desirability are key drivers of consumer participation in circular practices. These findings emphasize the critical roles of awareness campaigns, cultural factors, and infrastructural improvements in facilitating the transition to sustainable consumption behaviors. The results underscore the need for a multifaceted approach to address both psychological and systemic barriers to circular economy adoption.

5. CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

This study investigated the factors influencing sustainable consumption within the context of the circular economy in Edo State, Nigeria, using the Theory of Planned Behaviour as a guiding framework. The findings revealed that while recycling rates had a positive but statistically insignificant relationship with sustainable consumption, product lifespan extension and consumer engagement demonstrated significant impacts. These results highlight the complex interplay between consumer attitudes, subjective norms, and perceived behavioral control in driving sustainable consumption behaviors.

The study underscores the critical role of promoting reparability, reuse, and active consumer participation in advancing circular economy principles. The study also identified key barriers, such as limited recycling infrastructure and low awareness of circular practices, which may hinder the adoption of sustainable consumption behaviors. Addressing these challenges requires targeted interventions at both the policy and community levels to promote circular economy practices. By leveraging insights from this study, policymakers, businesses, and educators can implement strategies to foster a more sustainable future through the adoption of circular principles.

5.2 RECOMMENDATIONS

Invest in accessible and efficient recycling facilities and programs, particularly in rural and peri-urban areas, to increase recycling rates and promote resource recovery. Encourage businesses to offer repair kits, services, and durable product designs, while implementing public awareness campaigns highlighting the environmental and economic benefits of extending product lifespans.

Develop community-based programs and social campaigns that leverage peer influence and societal approval to encourage participation in circular economy activities such as sharing and reuse practices.

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