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Circular Economy: A Step Toward SDG 12's Responsible Consumption

Ms. Khushbu Keshri[1*], Ms. Princy Singh[2], Shruti Briguvanshi[3], Prof. Ashok Kumar Mishra[4]

[1*](Research Scholar) Department of Commerce, Mahatma Gandhi Kashi Vidyapeeth, Varanasi
[Email id-khushbukeshrijrf@gmail.com]
[2](Research Scholar) Department of Commerce, Mahatma Gandhi Kashi Vidyapeeth, Varanasi
[Email id-princy12342@gmail.com]
[3](Research Scholar) Department of Commerce, Mahatma Gandhi Kashi Vidyapeeth, Varanasi
[Email id- singhshruti394@gmail.com]
[4]Dean- Faculty of Commerce & Management Studies, Director- Institute of Management Studies
Mahatma Gandhi Kashi Vidyapeeth, Varanasi

Abstract- To counteract resource depletion, price volatility, and environmental degradation brought on by causes like population expansion and climate change, a shift from a linear to a circular economy is essential **(Chizaryfard et al., 2021)**. This change aims to reduce waste and conserve resources, promoting efficiency and sustainability. The circular economy appears as a significant strategy **(Janssens et al., 2020)**, increasingly recommended for sustainable development **(Saidan et al., 2019)**, despite problems in achieving sustainability **(FATA & MYFTARAJ, 2020)**. By optimizing resources and recycling garbage, it encourages responsible consumption (Barros et al., 2021). It is imperative to conduct thorough study on customer acceptance **(Elzinga et al., 2020)**. Sustainable growth requires embracing the circular economy.

Keywords- Circular economy, Linear economy, Exploratory Factor Analysis, **"**transition from Linear to circular economy"

Introduction

By decoupling economic activity from the consumption of natural resources, the circular economy tackles issues such as waste, climate change, and biodiversity loss **(MacArthur, 2015; Tetra Pak India, 2023)**. The Sustainable Development Goals (SDG) of Zero Hunger, Good Health, and Responsible Consumption are impacted by food loss and waste despite attempts **(SDG Report, 2023)**. Although the earth is greatly impacted by consumer behavior, rates of material consumption are still unsustainable **(do Canto et al., 2021)**. Based on Pearce & Turner's Economic Model (1989), the circular economy concept seeks to promote sustainable patterns of production and consumption while bridging the gap between the economy and the environment **(Löschel & Zhang, 2002; Das, 2020)**. The goal of regulations is to lessen the harm that economic progress causes to the environment **(Kapoor, 2022)**.

"The 3R (Reduce, Reuse, and Recycle) **(Oliveira et al., 2021)** imperative necessitates a "Circular Economy" that transitions linear production systems into closed-loop systems, requiring resources and by-products to undergo multiple production, consumption, and end-of-life cycles. **(Oliveira et al., 2021; Ghisellini et al., 2016)**. Humanity faces challenges like population growth, climate change, increasing food, fiber, and bioenergy production, and managing natural resource depletion. (**Chennak et al., 2023)**.

Based on the French verb **"Soutenir"**, which means "to support or hold up," sustainability is becoming more and more popular in corporate strategy and policymaking **(Brown et al., 1987)**. The circular economy brings about a lot of changes, but its implementation is hampered by the lack of supporting scientific research and policy. There are obstacles to consumer interest and acceptability of circular models **(Rizos et al., 2016; Van Keulen & Kirchherr, 2021)**. Weak demand networks cause small and medium-sized businesses to struggle with green innovations **(Kirchherr et al., 2017)**. Consumer awareness and apathy are obstacles to the circular economy transition **(Kuah & Wang, 2020)**. In order to achieve a lasting economic revolution, these obstacles must be removed.

"Circular Economy" and "Responsible Consumption (Sustainable Development Goals)"

In 1987, the Brundtland Commission initiated the creation of various "Sustainable Development Indicators (SDI)" by environmental agencies, academics, companies and governmental organizations **(Hardi & Zdan, 1997).**

The **UNEP**'s "Ensuring sustainable consumption and production patterns," or SDG 12, emphasizes the difficulty of striking a balance between environmental sustainability and economic growth. To promote a more sustainable global economy, this means separating resource usage from environmental impact **(Wijkman & Skånberg, 2015)**. Decoupling is essential to prevent biodiversity loss and resource scarcity because it permits economic growth without increasing

resource use or environmental strain. Decoupling on both a relative and absolute level is crucial, especially as the economy gets closer to the point where sustainable growth is possible. In order to achieve sustainable patterns of consumption and production—which are essential for a more environmentally friendly and equitable global economy—economic growth must be integrated with environmental sustainability. UNEP emphasizes how important this integration is to tackling one of the biggest problems facing the planet**.**

UNEP in "Resolution 1" "*Specifies that a circular economy is one of the current sustainable economic models, in which products and materials are designed in such a way that they can be reused, remanufactured, recycled, or recovered and thus maintained in the economy for as long as possible, along with the resources of which they are made, and the generation of waste, especially hazardous waste, is avoided or minimized, and greenhouse gas emissions are prevented or reduced"***(UNEP, 2023).**

The concept of the Circular Economy (CE) is becoming more and more popular throughout the world, particularly in the **G20 (now G21)** countries, as a way to meet political objectives and accomplish the Sustainable Development Goals (SDGs) **(Govindan, 2023)**. The inclination of consumers to adopt sustainable purchasing behaviors highlights their concern for the environment **(Muranko et al., 2018)**. For companies functioning within CE frameworks, customer participation in the purchase and sale of green products is essential to the success of CE **(Janssens et al., 2020; Ayuso et al., 2023)**. Consumers' desire to participate in the Circular Economy is growing along with their intention to buy green products **(Chen et al., 2023)**. Due of the possible lifestyle changes involved, it is imperative to comprehend why consumers adopt circular behaviours **(Ayuso et al., 2023)**.

According to **Trần et al. (2022),** Businesses create eco-friendly goods and services because they want to be involved in the circular economy **(Sara Alonso et al., 2022)** by purchasing and reselling goods Participation in this economy refers to an individual's purchasing behavior; the more inclined they are to purchase environmentally friendly goods, the more eager they are to participate.
Otero et al. (2020) have explained the Conceptual Framework for studying the important decision variables and the customer's willingness to participate in "Circular Economy".

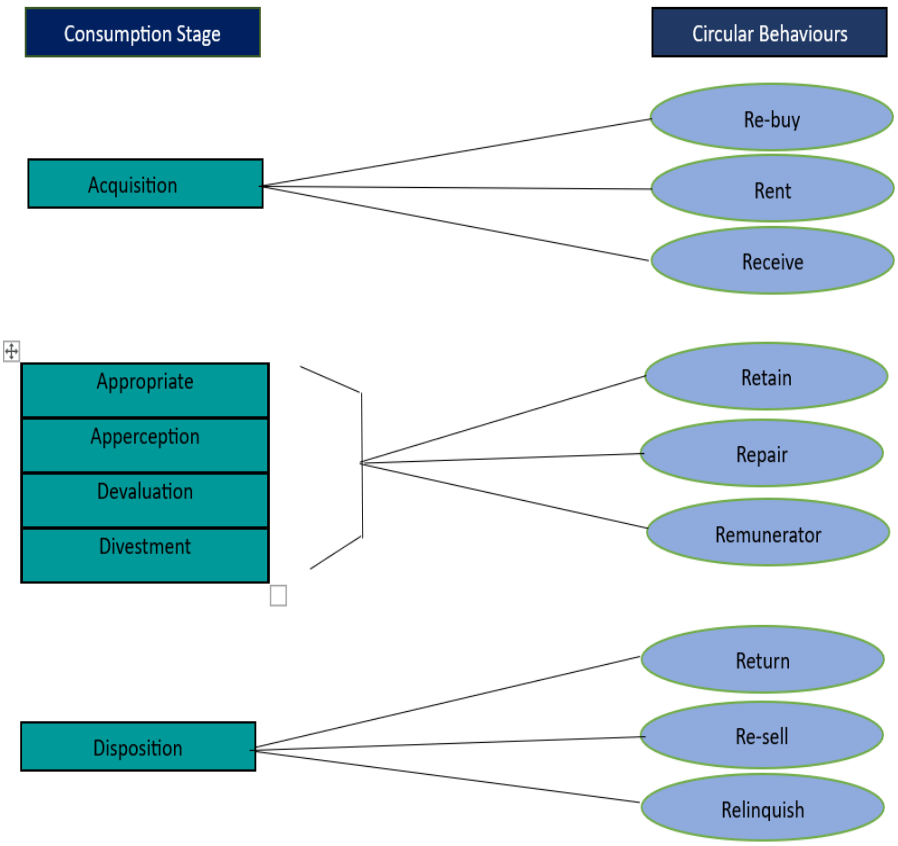

Figure 1: Source "Otero et al. (2020)"

Pretner (2021) Explain how Circularity of products can affect the responsible consumption and consumer aptitude in his work by defining, the recognition of the social and environmental advantages linked to heightened circularity can positively impact consumers' willingness-to-pay (WTP) **(Chennak et al., 2023)** for products manufactured using circular processes.

From linear to circular transition:

The Circular Economy prioritizes waste minimization, in stark contrast to the Linear Economy model that involves resource extraction, manufacturing, and disposal **(MacArthur, E)**. Adopting a Circular Economy can promote flexibility, employment, and wealth creation while lowering greenhouse gas emissions, waste, and pollution **(MacArthur, E)**. This creative approach puts an emphasis on sustainable growth by encouraging recycling and reuse, cutting down on the use of raw materials, and optimizing resource efficiency **(BOSHNJAKU & DAFA, 2022)**. It incorporates eco-efficiency, expanded environmental ecosystems, biodiversity conservation, renewable energy investment, and responsible water use while highlighting eco-effective production techniques **(BOSHNJAKU & DAFA, 2022)**. A more sustainable and prosperous future is within reach with the help of the Circular Economy.

A change from a "cowboy economy," in which resources are viewed as infinite, to a "spacemen economy," which acknowledges resource restrictions, is suggested by **Chennak et al. (2023)**. They support cyclical systems that recycle trash in order to protect capital stocks and sustain Earth's resources over time.

Many authors, including "**King et al.,(2006); Zhu et al.,(2010a); Zhu et al.,(2010b)" and Brennan et al. (2015),** use the "R Framework" to explain the fundamental idea behind the circular economy **(Kirchherr et al., 2023 and Patti, 2023)**. The authors proposed the **3R i.e. Reduce, Reuse, Recycle (King et al.,2006 and Ghisellini et al.,2016)** framework as the initial framework, and then scholars proposed the **4R i.e. Reduce, Reuse, Recycle, Repair (European Commission, 2008;** F**erronato &Torretta, 2019 and Aslam et al., 2020)** framework, as well as the **6R i.e."Reduce, Reuse, Recycle, Recover, Redesign, Remanufacture"**work done by various authors**"(Yan & Feng, 2014; Sihvonen & Ritola, 2015; Gupta et al.,2015; Liu et al.,2018; Jiang et al., 2020; Ghisellini & Ulgiati,2020; Yadav et al.,2020)**"Framework and even the **9R (Van Buren, 2016 and Potting et al., 2017)** framework**.**

With a restorative, regenerative strategy that emphasizes product life cycles and waste minimization, the circular economy replaces the conventional extract-produce-dispose paradigm. It encourages reuse, recycling, repair, and remanufacture, promoting resource productivity and nature's resilience, ultimately closing the industrial ecosystem **(Upadhayay & Alqassimi, 2018).**

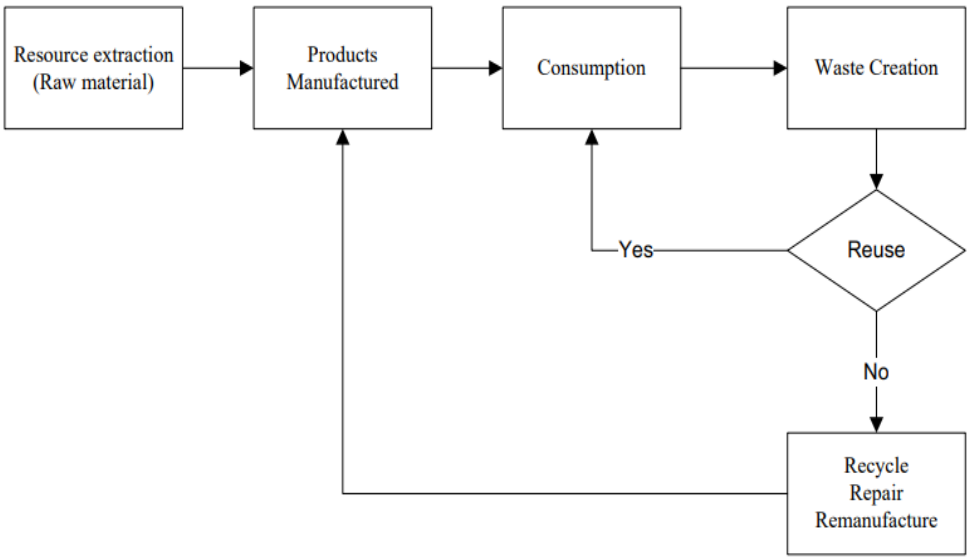

Figure 2: Source Circular economy flow diagram, (Upadhayay & Alqassimi, 2018)

By empowering product designers with a sustainable mindset, organizations must change how they operate, and the supply chain must be reshaped as part of the transition from traditional to circular.

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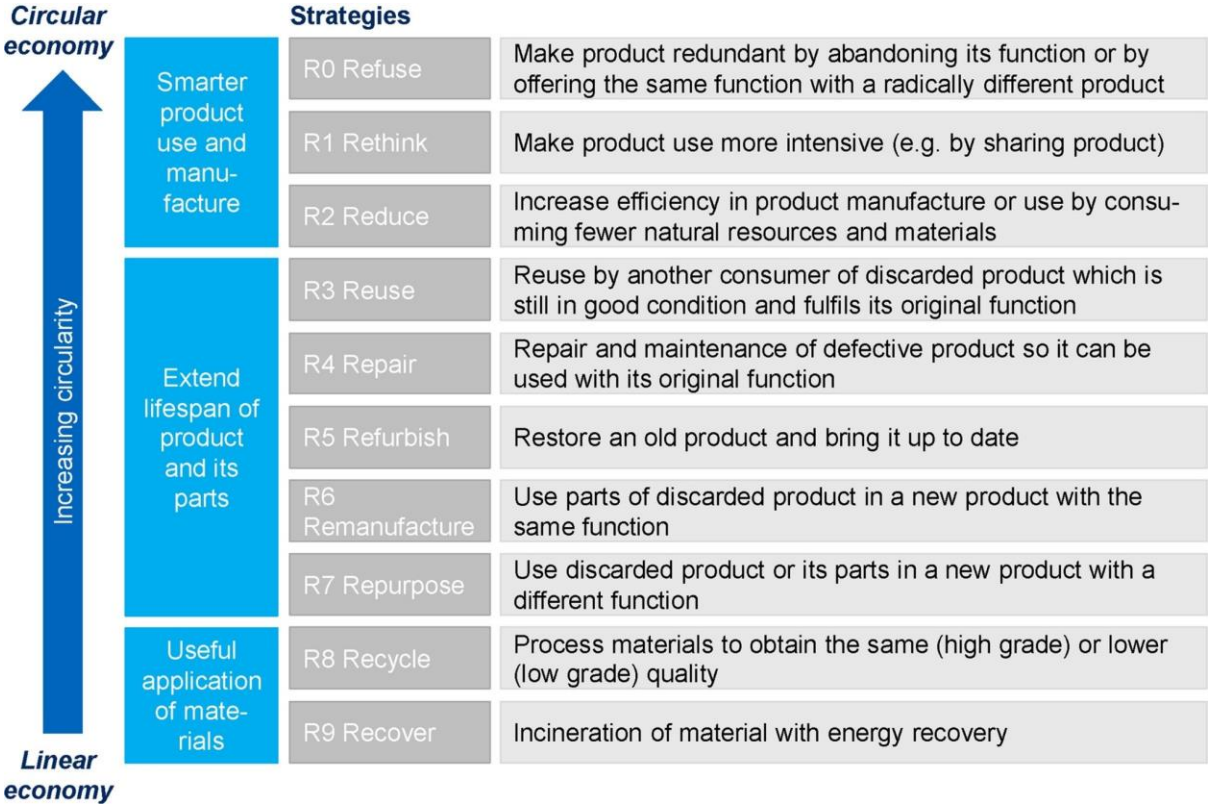

Fig. 3: Source 9R framework, (Potting et al. (2017, P.5)

Need to switch from "Linear to circular Economy"- Many authors have emphasized the many advantages that set a circular economy apart from a linear one **(Kapoor, 2022; Chennak et al., 2023)** in their works. **To protect environment**

1) **To reduce production costs**
2) **Reduce raw material dependence**
3) **Crate jobs and save consumer's money**
4) **Enhance the supply chain's economic effectiveness**

Literature review-

In their analysis of 221 definitions, **Kirchherr et al. (2023)** expose the subjective perception of the Circular Economy (CE). According to **Petoskey et al. (2021)**, the Ellen MacArthur Foundation defines CE in terms of three fundamental principles: limiting environmental effect, optimizing material utility, and preserving a closed system. Preserving natural capital and improving overall efficiency are the goals of CE **(Geissdoerfer et al., 2017; MacArthur, 2015)**. But **Hazen (2016)** points out that customer resistance to buying refurbished goods is impeding the advancement of CE. It's critical to comprehend customer sentiments in addition to elements like price and environmental advantages. Businesses must highlight affordability and environmental friendliness in their marketing to favourably impact consumer behavior and promote the adoption of CE.

Value creation is intended to be separated from resource consumption and waste production by the circular economy **(Otero et al., 2018; Fernández & Rybkowski, 2015)**. Its adoption is hampered, therefore, by cultural obstacles and user opposition. Understanding consumption dynamics and incorporating user viewpoints into design are prioritized by research. Promoting acceptability of the circular economy requires addressing socio-material and cultural issues **(Spaargaren, 2013)**. By emphasizing resource cycling, waste minimization, and low-carbon systems, circular practices minimize their negative effects on the environment while promoting new jobs and healthier lifestyles **(Wrap, 2019)**. It promotes environmentally conscious living and a "build back better" mentality, balancing economic expansion with environmental conservation.

Testa et al. (2020) explore the impact of pro-environmental behaviours, greenwashing attitudes, customer ingenuity, and information-seeking on circular packaging purchases. Using data from an Italian family survey, they emphasize the importance of information in guiding consumers towards circular economy-consistent choices. Packaging significantly influences purchase decisions, with informed consumers more likely to prioritize environmental features. **Lacy & Rutqvist (2015)** advocate for supply chain transformations to embrace circularity, focusing on renewable energy,

biodegradable materials, and product design for reuse. Understanding demand and aligning products with consumer preferences, including sustainability criteria, is crucial in advancing circular economy principles.

According to **Boyer et al. (2021)**, the circular economy score of a product might affect consumer perceptions and help producers come up with winning plans. With 800 participants from the UK, their study finds three client segments with different perspectives on recycled goods. The results highlight the possible advantages of circularity labeling and point to future markets for recycled consumer goods. The cyclical consuming process is defined by **Kapoor (2022)** and includes the following steps: buying, renting, or receiving used goods; repairing or holding onto them while in use; and returning or reselling them when they are no longer needed. In addition to extending product life, this approach encourages sustainable consumption habits.

"Reducing, reusing, recycling, and recovering resources in the manufacturing, distribution, and consumption processes would take the place of the "end-of-life" notion in an economic system. Sustainable development is the goal of its operations at the micro (products, companies), meso (eco-industrial parks), and macro (city, region, nation, and beyond) levels. It is made possible by creative company strategies and conscientious customers **(Kirchherr et al., 2017)."**

In contrast to the linear model's reliance on cheap materials and energy, the circular economy model, as presented by the **European Parliament (2023)**, prioritizes sharing, leasing, reusing, repairing, refurbishing, and recycling existing goods. This approach minimizes waste, extends product lifecycles, and promotes resource efficiency. **Trần et al. (2022)** highlight the need for a closed-loop system in the circular economy, bringing economic activities into line with environmental sustainability. **Mugge (2018)** highlights the significance of closed-loop processes in restoring material flows and preserving resources, advocating for refurbishment, repair, and alternative ownership arrangements to maintain product value.

According to **Saavedra et al. (2018)**, circular economy policies emphasizing waste disposal techniques can reduce waste by bringing materials back into manufacturing processes. While recognizing the subjectivity of the scoring of CE techniques and ease of transition, **Massimiliano & Luigi (2022)** give a methodology for analysing circular food consumption and provide insights into sustainable family behaviours and their potential implementation.

The circular economy, according to **Zyka (2020),** is a mechanism for sustainable development that improves competitiveness, resilience, and environmental sustainability. The focus is on utilizing technology to enhance industrial processes and product design, as well as recycling and resource reuse. Precise industry-specific data are essential for monitoring development and promoting the circular economy.

Objective-

1) Identifying the need to shift from a linear to a circular economy.
2) To examine the factors influencing responsible consumption towards participation in circular economy.

Need of the study:

Reducing overconsumption is necessary due to the predicted 9.8 billion people on the planet by 2050, which calls for sustainable lifestyle adjustments. Fossil fuel subsidies quadrupled between 2020 and 2021 amid global crises, notwithstanding this urgency. Dedicated policy, data-driven initiatives, and technology breakthroughs are required to address food waste. Future growth is threatened by environmental degradation, which emphasizes the need for increased resource efficiency and active involvement in global environmental accords **(Sustainable growth Goals, Goal 12)**.

The circular economy approach highlights the close relationship between economics and the environment **(Patti, 2023)**, yet little attention has been given to the impact of economic **(Ruiz-Real et al., 2018)** thinking on the environment. The consumer's viewpoint on a circular economy has not yet been thoroughly investigated. This paper aims to define dimensions of circular behavior/consumption to the consumer's willingness to participate in a circular economy **(Chennak et al., 2023)**.

Definition of circular economy

Kirchherr et al. (2017) analyzed **114** definitions of Circular Economy and found that Circular Economy and recycling are used interchangeably. The **3R** framework (i.e., reduce, recycle, and reuse) is the most common conceptualization of Circular Economy in the literature, and some of the definitions fail to highlight the necessity for a systemic shift. **Kirchherr et al. (2023)** recently revised this study to include 221 definitions of CE and noted an increased emphasis on the 4R framework (i.e., reduce, recycle, reuse, and recover) as well as business models and consumers.

The "**World Economic Forum's"(WEF, 2022)** Definition of Circular Economy "A circular economy is an industrial system that is restorative or regenerative by intention and design. It replaces the end-of life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse and return to the biosphere, and aims for the elimination of waste through the superior design of materials, products, systems, and business models."

"Circular economy is an approach that would transform the function of resources in the economy. Factory waste could be used as a valuable input in another process, and products could be upgraded, repaired, or reused rather than being thrown away" claims **Preston (2012).**

"An alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them while they are in use, then recover and regenerate products and materials at the end of each service life" (**Wrap, 2019).**

Methodology-

The study focuses on the role of consumers in the success of the circular economy. A Google Form questionnaire is prepared. There are two sections to the questionnaire. Basic details on the respondents, including age, location, and educational background, are provided in the first section. The Likert scale is used in the second section to gauge respondents' awareness of and agreement with the circular economy. Table 1 lists the variables for the Likert scale. Depending on the response level, the variables are given a score between 1 and 5, correspondingly:

Table 1: Likert scale's variables

"Strongly agree: 5" "Agree: 4" "Neutral: 3" "Disagree: 2" "Strongly disagree: 1"	"Very familiar:5" "Familiar: 4" "Neutral :3" "Less familiar: 2" "Not familiar at all:1"

To identify the factors, exploratory factor analysis (EFA) **(Jain & Shandilya, 2013)** is utilized. Factors with respected coding are depicted in table 2

TABLE 2: FACTORS

Factors	Explain
Concern for the Environment (CFE) "	CFE1: You like to support businesses that actively promote and implement "circular economy principles such as product leasing, take-back"programs, or offering repair services. CFE2: The scarcity of resources encourages me to practice circular consumption. CFE3: I believe it is necessary for people to participate in circular behavior. CFE4: You want "to be a"part"of the circular economy."" CFE5: "The""circular economy""aids in accelerating economic growth. CFE6: You'll pick a product with the claim "made from recycled materials" over one that doesn't. CFE7: Environmental concerns/waste landfills inspire me to practice circular consumption.

Comprehensive Readiness to Participate (CRP)	CRP1: I seek out products that are labelled as eco-friendly or sustainable. CRP2: Instead of purchasing new goods, I choose to upgrade existing ones. CRP3: Instead of throwing my things away, I would rather resell them. CRP4: I buy new products only when it is absolutely necessary. CRP5: Instead of wasting the product, I choose to return it to the system. CRP6: Before purchasing, I make sure that the product can be repaired or exchanged. CPR7: When it comes to buying circular products or engaging in circular behavior,"the first thing that comes to mind is"price."
Attitude towards Buying Decision (ABD)	ABD1:. I prefer to repurchase (2nd hand) products. ABD2: Instead of purchasing, I choose to rent the product. (e.g., clothing, electronics). ABD2: I like to buy the things in exchange.
Familiarity toward Circular Economy (FCE)	FCE1: You engaged in circular economy-related activities, such as recycling, repurchasing, buying again, or remanufacturing. FCE2: You are familiar with the term circular economy. FCE3: You often repair items (e.g., clothing, electronics) instead of replacing them.
Familiarity With the 3 R's (FWR)	FWR1: You apply these 3 R's in your daily life. FWR2: How far familiar are you to 3 terms (Reuse, Recycle, Reduce.

TESTING THE RELIABILITY OF THE SCALE

"The reliability"**(Bonett & Wright, 2015)** related to the constructs of the study is used to assess their "internal consistency". "Cronbach's Alpha""was used to"assess the construct's dependability. Using "Cronbach's alpha coefficient", the trash variable is removed initially **(Peterson, 1994)**. A construct is regarded as credible, in accordance with **Hair et al. (2013)**, if its Alpha(α) value is greater than.70. . The outcome showed over all Alpha = 0.885 which is satisfactory**.**

TABLE 3: RELIABILITY TEST

Reliability Statistics

Cronbach's Alpha	N of Items
.885	22

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CFE1	88.25	82.021	.568	.883
CFE2	88.25	81.467	.558	.883
CFE3	88.11	83.164	.559	.884
CFE4	88.28	83.402	.473	.885
CFE5	88.18	81.508	.584	.882
CFE6	88.40	82.433	.501	.884
CFE7	88.22	82.858	.494	.885
CRP1	88.22	82.468	.537	.884
CRP2	88.29	81.447	.574	.883
CRP3	88.35	81.638	.570	.883
CRP4	88.25	81.603	.515	.884
CRP5	88.28	83.010	.505	.884
CRP6	88.24	81.671	.548	.883
CRP7	88.51	84.091	.340	.889
ABD1	89.26	82.169	.352	.890
ABD2	89.07	83.139	.288	.893
ABD3	88.61	81.144	.521	.884
FCE1	88.43	82.110	.510	.884
FCE2	88.40	84.593	.384	.887
FCE3	88.28	81.252	.506	.884
FWR1	88.35	83.086	.522	.884
FWR2	88.10	84.669	.372	.888

DATA SUITABILITY:

KMO coefficient and Bartlett's test

Exploratory factor analysis was performed after the scale's dependability was examined. The principle components method **(Trần et al., 2022)** with Varimax rotation was used as the extraction methodology for analysis of factors. The results of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy **(Nkansah, 2011)** should be interpreted in accordance with the following rules: "In the range of 0.90 to 1.00, the sample is classified as "Marvelous," 0.80 to 0.89, "Meritorious," 0.70 to 0.79, "Middling," 0.60 to 0.69, "Mediocre," 0.50 to 0.59, "Miserable," and 0.00 to 0.49, "Do not Factor" **(Ocal et al., 2007)**." The value of KMO in table 4 is **0.880,** making it meritorious to perform the analysis. The questionnaire can explain about **57.368%** of the total variance, which further demonstrates the model's robustness. The "exploratory factor analysis for the independent" variable **(Cudeck, 2000)** is showing the P value is 0.000.

Table 5: KMO coefficient and Bartlett's test for factors

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.880
Bartlett's Test of Sphericity	Approx. Chi-Square	1895.496
	df	231
	Sig.	.000

EXPLORATORY FACTOR EXTRACTION MODEL:

Kaiser's criterion was used to extract five factors with Eigen values greater than 1 **(Jain & Shandilya, 2013)**, as represent in Table 6.

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TABLE 6: TOTAL VARIANCE EXPLAINED

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.853	31.151	31.151	6.853	31.151	31.151	3.444	15.652	15.652
2	1.858	8.444	39.596	1.858	8.444	39.596	3.342	15.192	30.845
3	1.509	6.860	46.455	1.509	6.860	46.455	2.146	9.752	40.597
4	1.338	6.082	52.538	1.338	6.082	52.538	1.970	8.954	49.551
5	1.063	4.831	57.368	1.063	4.831	57.368	1.720	7.817	57.368

Extraction Method: Principal Component Analysis

"EXPLORATORY FACTOR ANALYSIS"

Factor loading

The measured elements in this study show communalities in the EFA model, that ranges from 0.430 for CRP5 to 0.716 for ABD2, according to Table 7. Table depicts all the factors with their respective extraction value.

CODES	INITIAL	EXTRACTION
CFE1	1.000	0.658
CFE2	1.000	0.584
CFE3	1.000	0.608
CFE4	1.000	0.562
CFE5	1.000	0.570
CFE6	1.000	0.550
CFE7	1.000	0.593
CRP1	1.000	0.599
CRP2	1.000	0.604
CRP3	1.000	0.577
CRP4	1.000	0.456
CRP5	1.000	0.430
CRP6	1.000	0.489
CRP7	1.000	0.475
ABD1	1.000	0.489
ADB2	1.000	0.716
ABD3	1.000	0.553
FCE1	1.000	0.551
FCE2	1.000	0.604
FCE3	1.000	0.519
FWR1	1.000	0.666
FWR2	1.000	0.528

Extraction Method: Principal Component Matrix [Author's own]

Table7: COMMUNALITIES

All of the reactivities in circular consumption's loadings were examined for their respective loadings. The loading requirement's minimum value of 0.5 was used. The rotated component matrix **(Irani et al., 2017)** in Table 8 shows the loading values for each variable below. Five factors are extracted from the questionnaire: CFE, CRP, ABD, FCE and FWR.

TABLE 8: ROTATED COMPONENT MATRIX

Rotated Component Matrix

	Component				
	1	2	3	4	5
CFE1	.770				
CFE2	.708				
CFE3	.640				
CFE4	.626				
CFE5	.619				
CFE6	.603				
CFE7	.515				
CRP1		.697			
CRP2		.688			
CRP3		.591			
CRP4		.590			
CRP5		.574			
CRP6		.514			
CRP7		.512			
ABD1			.811		
ABD2			.806		
ABD3			.551		
FCE1				.640	
FCE2				.631	
FCE3				.601	
FWR1					.690
FWR2					.671

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Discussion and conclusion:

The circular economy concept presents a sustainable alternative to current waste generation and resource depletion practices **(Kumar et al., 2023; Feng and Yan, 2007; Linder and Williander, 2016)**. This study investigates factors influencing responsible consumption and participation in the circular economy, revealing a correlation between environmental awareness and willingness to engage in circular practices. Consumer behavior plays a crucial role, as businesses produce goods based on consumer demand, promoting circularity. Utilizing waste as raw materials reduces dependency on non-renewable resources, aligning with circular economy objectives. Policymakers should devise strategies to promote environmental protection attitudes, addressing practical challenges while encouraging participation. However, limitations exist, including unaccounted variables such as socio-material and cultural factors, digitalization, and strategies to foster circular economy adoption, which influence consumer willingness to engage **(Palanivelu, 2019; Güsser-Fachbach et al., 2023; Otero et al., 2018; Chennak et al., 2023).**

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