THE IMPORTANCE OF CIRCULAR ECONOMY.
CIRCULAR BEHAVIOR MODELS IN ROMANIA

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Abstract: *The issues of consumerism indicate that humanity lives far beyond the means the planet can provide. The Circular Economy concept is a solution for the problems like climate change, biodiversity loss, waste, and pollution. To implement the concept and solve the concern regarding the consumption of worldwide reserves and the environmental imprint associated with it, the consumers must be assessed and understood. A survey was conducted to find out consumers' attitudes towards circular models. The aim of the study is to determine the consumers' level of knowledge and involvement in the circular economy, to identify the consumers' profile and to recognize effective circular models. The findings reveal consumers are more aware of the term sustainability than circular economy, and that collectivism and femininity are the only two cultural dimensions that influence the level of involvement in the circular economy. Moreover, it has been identified that consumption culture influences the sharing model and that sharing is the most accepted circular model in Romania.*

Key words: *circular economy, circular behavior, consumer attitude, culture, business models, sustainable consumption*

1. INTRODUCTION

The linear economy has led to excessive pollution, depletion of resources, excessive use of land and the production of tons of waste [1]. Clearly, all these negative consequences endanger the system of sustaining the life on earth [2] and confirm that humanity lives far beyond the means the planet can offer [3].

Without a doubt, a change from the linear model is undeniable. The circular economy (CE) provides the means for this change. Unlike the linear model, the circular economy proposes a closed-loop model, which prolongs the life of the products by offering initiatives to reduce, reuse, recycle and recover materials or products. Aim of the model is to support the sustainable development by empowering innovative business models and responsible consumption [4]. To support the model, both the production and the consumption pattern have to be reshaped. These changes have a significant economic, social, and environmental impact [5].

As the circular economy brings changes to the entire value chain, from producer to consumer. a prior analysis of how the model is perceived is essential. This analysis must consider the way in which the resources and roles of those involved are allocated [6].

The consumer plays the most critical part in the transition to a closed-loop model. That is why a deep knowledge of the reasons and norms underlying its decisions and behavior is a prerequisite for the development of an efficient economy [7]. As mentioned before, circular economy involves responsible consumption. This consumption pattern relates to having a mentality of saying "NO" to waste and landfills, having the urge to promote innovative economic models and having the devotion of protecting the environment [3].

Consumer behavior studies identified that the consumers' decisions, and therefore behavior, is guided by cultural, social personal and psychological characteristics [8]. Awareness of environmental and economic gain, sustainable reliability and green character of the products

changes the consumers' decision to acquire green products [9].

Starting from the premise that personal and psychological factors have a closer connection with the consumer himself, while the cultural and social factors also consider the society in which the consumer lives, the circular economy must take into account the norms and beliefs of the whole society. The culture of a society influences the understanding of the notion of sustainability and its implications [10]. Culture is not consistent; it changes successively and changes are assimilated by society. As a result, companies need to explore and adapt to cultural forces by developing strategies for each category of culture to increase sales of products or services [11].

The scope of this study is to investigate the consumers profile and behavior to determinate among Romanian consumers the most acknowledged circular models. Consumers' profiles were developed according to the cultural dimensions defined by Geert Hofstede [12] and the circular pattern were structured in line with the Ellen MacArthur Foundation's butterfly diagram [13]. The objectives of this study are as follows:

- To determine the consumers' level of knowledge and involvement in the circular economy;
- To identify the consumers' profile;
- To recognize effective circular behavior models.

The study is structured as follows: the following section shows the literature review, including the perspectives, definitions, arguments from the literature; the methodology is defined in the third section; followed by a report of result in section four and in the end, in section five, we show the conclusion, limitations and proposals for future studies.

2. LITERATURE REVIEW

2.1 Circular Economy

Circular economy accomplishes the evolution from a linear economic model to a circular one. The main difference between the two systems is the endlessness of the circular system. The main objectives of the concept are the elimination of waste and pollution, the regeneration of nature and the maintenance in circulation for as long as possible of the products and materials [14]. The path that is pursued to achieve these objectives, generates ecological (reduction of virgin material and waste consumption), economic (saving of energy) and social benefits (creation of new jobs) [15].

These benefits are indeed the pillars of sustainability, which are the basis of the sustainable development goals (SDG). These targets were embraced by all United Nations countries in 2015. A 15-years plan was set up to achieve the 17 SDGs that are included in the 2030 Agenda for Sustainable Development. The purpose of the SDGs is to protect the planet, improve life, and fight poverty [16]. The goal which is most closely linked with the circular economy is SDG 12 (Responsible Consumption and Production) [6]. This goal establishes the way countries must change the policies regarding the way companies produce or use goods or services[17].

The circular economy proposes different loops, which can be followed to maintain a longer life of the existing product or create a new life. The closed loop supply chain creates a bidirectional product path. Hence, the products and material travel from the manufacturer to the customer/consumer, as well as from them back to the product or even parts manufacturer. Given that the earth's resources are limited, such actions are fundamental [18]. If a good can no longer be used, the customer / consumer returns it to the supplier, who recovers the value by reusing all or part of the product. Thus, the entire product life cycle is extended, and the extraction of virgin material is avoided or delayed [19].

To gain value of the circular economy, the closed loop concept requires all stakeholder to interact and coordinate their beliefs [20]. This implies the cooperation of local, national, and international enterprises [2] but also the involvement of the consumer. Therefore, consumer awareness motivates and creates opportunities [21].

The center of the circular economy is the owner/user of the product [22]. Not only changes the consumer role of a simple user to an actor involved in the process of creating values [6], but also the consumer is entrusted with the

responsibility to close the loop. To raise awareness and to get the knowhow to close the loop, the education and information of the consumer is essential [23].

2.2. Consumer and Culture

The consumer behavior is influenced by the internal factors, such as consumer characteristics and decision-making process [24]. The recognition of these is crucial to empower the consumer to have a sustainable behavior [25]. The consumer characteristics are cultural, social, personal, and psychological. Culture refers to the set of values, perceptions, aspirations, and behaviors learned from the family or the environment. Social factors are the family, social groups, social networks, status, and social roles. The personal factors cover the age, occupation, lifestyle, economic situation, and personality of the consumer. Decisions are also influenced by the consumers motivation, perception, attitudes, and beliefs, which are psychological factors [8]. However, the economic situation is considered, by more current studies, as an independent factor due to its major impact on the decision [11].

Consequently, consumption is influenced by the listed consumer characteristics. For the consumer to behave aligned with the circular economy the business models have to flourish a culture based on circular and sustainable development principles [26].

Culture was recognized by the United Cities and Local Governments (UCLG) to be one of the backbones of sustainable improvement[27]. It was shown to have a direct correlation on achieving the most sustainable goals, being adaptable to a sustainable improvement progress[28]. So, while pursuing the road of sustainable development, culture must be considered [29].

Culture is passed on through the social factors. Clearly, the norms and beliefs are transmitted from one member of the group to another or from one generation to the next. Therefore, cultural factors are subjective and arbitrary and can significantly influence the decision-making model as the consumption [11].

At the same time, it has been shown that consumer attitude towards their needs and wishes can be shaped by social factors. Individuals that are within a certain social class are inclined to have similar beliefs, live in related areas and go to the same schools [24].

Indeed, culture has to be integrated in the business models. A method, by which it can be determined, is the Hofstede Cultural Dimension Theory, pioneered by Geert Hofstede. The theory is useful in identifying cultural traits within a country. The cultural profile is established through the study of five relevant aspects: long-term orientation compared to short term orientation, collectivism compared to individualism, femininity traits compared to masculinity, uncertainty avoidance index and lastly establishing the power of distance [12].

2.3. Circular and sustainable models

Without a doubt, the circular business models must be sustainable. This can be achieved by designing market-oriented business models that grant win-win situations for different stakeholders [30]. While developing an effective sustainable business model, close integration of the consumer improves the consumer's acceptance and risk perception [31] Therefore, the awareness of the consumer is the key element in the process of developing successful circular models [32].

The circular system diagram, known as the Butterfly Diagram, dawned by the Ellen MacArthur Foundation based on Braungart & MacDonough Cradle to Cradle, illustrates models by which materials continuously flow in the economy. The model is consisted of two primary cycles, namely the biological loop and the technical loop. The circulation of products, components and materials in the technical cycle is kept through processes such as share, repair, redistribute, remanufacture and recycle. In this way, the life of the material and products is prolonged. Moving on to the biological loop, composting and anaerobic digestion are processes ensuring that the nutrients coming out from biodegradable components are returned to the earth, allowing the regeneration of the soil so that the loop can keep on going [33].

The products and materials that pursue the above-mentioned cycles are considered environmentally friendly. However, consumer

do not agree to tradeoff products attributes, such as quality, price, convenience, and durability, for a better environment [34]. Also, it has been proven that consumers like the business models, which offer a diversity and require little effort on their part. Consumer wish to be able to pick what suits them best from a variety of business models [35-40].

3. METHODOLOGY

The methodology used in this research paper is a primary data collection approach, consisting in a survey that was addressed to people living in Romania. As a tool it was used the online questionnaires, divided into several sections. The questionnaire was applied online via Google Form. The processing of the primary data obtained was performed by statistical software.

The questionnaire is structured as follows. The first two sections set out to identify the respondent's level of knowledge and involvement on the circular economy. Following, the profile of the respondent is established with the help of questions based on cultural dimensions defined by Geert Hofstede, influence of consumption and product's perception. Further, each section embraces each

circular models: sharing and repairing, redistribution, remanufacturing, recycling, and biological cycle. The purpose of these questions is to ascertain the attitude and circular behavior. At the end, the survey also includes questions regarding socio-demographic variables, such as age and gender.

4. RESULTS AND DISCUSSION

The survey registered 201 responses, of which 200 were validated because one person did not give his consent. The first objective of this study is to determine the respondents' level of knowledge and involvement in the circular economy.

Figure 1 illustrates the percentage of the respondents, according to the age category, which know or not the circular economy term. As a result, age categories with higher familiarity regarding the concept are: 25 – 34 years old, 45 – 54 years old, 55 - 64 years old and 65 or above. The highest contrast between the same age category can be seen at the category 55 – 64 years old. Contrary, the level of knowledge is similar at the age category below 18.
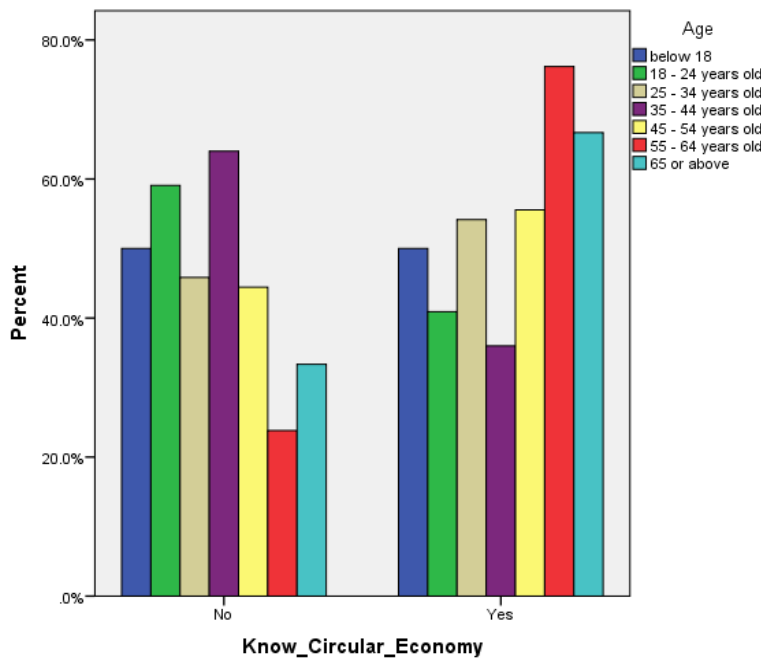

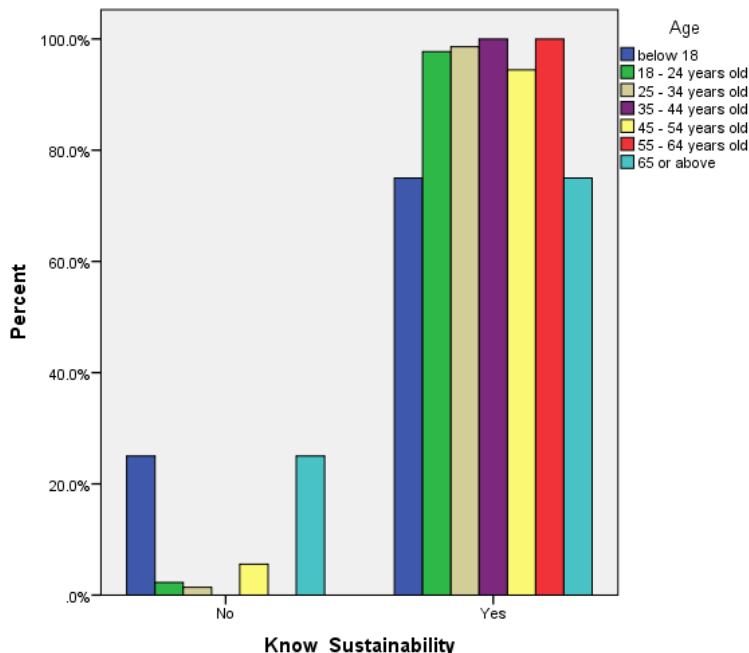**Fig. 1.** Histogram of Circular Economy knowledge.

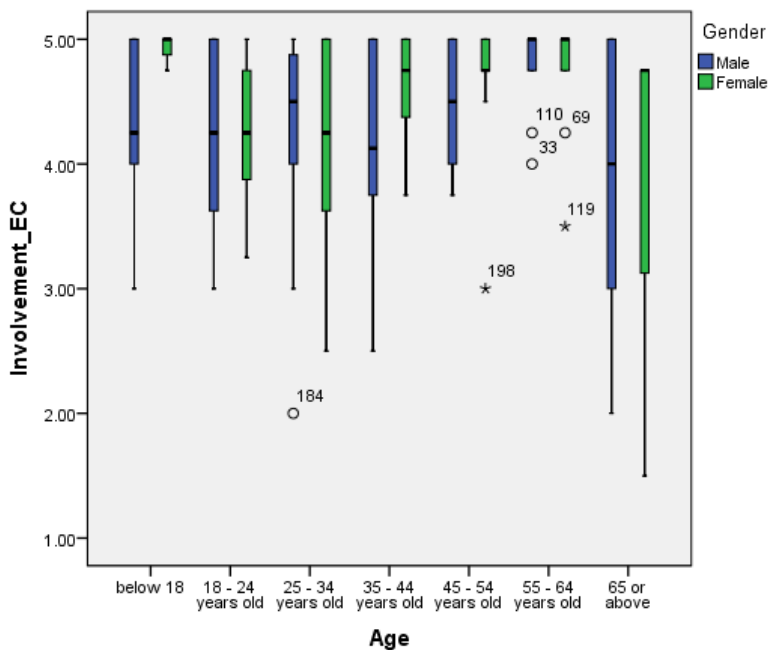**Fig. 2**. Histogram of Sustainability knowledge.

Fig. 3. Boxplot of involvement in Circular Economy.

Unlike the first histogram, Figure 2 shows that most of the respondents know the term sustainability. Age categories 35 – 44 years old and 55 - 64 have indeed 100% rate of comprehension. On the other hand, age categories below 18 and 65 or above have the highest percentage of people that are not aware of the term.

Consequently, regarding the knowledge of the "circular economy" and "sustainability" concepts, the respondents are more aware of the latter one. The concept of circular economy is known only by half of the respondents. Generally, people above 45 have a better understanding of the concept, as the people below. Age categories below 18 and above 65

years old are at least familiar with the concept of sustainability. This indicates that the term is new and the older generations possibly did not have tangent with it. In the case of younger generation, it may indicate that sustainability is not promoted enough in the school curriculums.

To rank the level of circular involvement depending on age and gender, a boxplot (Figure 3) was created. In general, the level of involvement is between 4 and 5, where 5 means very involved. It can be noted that category 55 – 64 years old has the highest score, but also the most outliers. Also, the length of the boxplot indicates that the most divided opinions are at the age category 65 or above. This could be

possible because older generations, have developed their own strong beliefs. However, it should be noted that some of the respondents are fond in getting involved in the circular economy. In terms of gender, we can see the highest difference between male and female among the respondents of age categories below 18 and 65 or above. The level of involvement is higher at the female respondents.

The second objective of the study is to identify the consumer's profile. Therefore, a multiple regression analysis was performed to identify which of Hofstede's cultural dimensions have an impact on the involvement level in the circular economy.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	4.255	.523		8.135	.000
Individ_collective	.283	.073	.268	3.860	.000
power_of_distance	-.030	.075	-.028	-.401	.689
masc_vs_fem	-.245	.072	-.241	-3.379	.001
uncertainity_level	-.023	.061	-.026	-.388	.699
future_orient	-.049	.076	-.047	-.653	.514

a. Dependent Variable: Involvement_EC

Fig. 4. Multiple Linear Regression Analysis: Effect of Hofstede's cultural dimensions on CE involvement.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	.739	.260		2.844	.005
Product_perception	.100	.047	.149	2.099	.037
Culture	.170	.067	.181	2.556	.011

a. Dependent Variable: Accept_sharing_products

Fig. 5. Multiple Linear Regression Analysis: Effect of culture and product perception on product sharing.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	1.454	.431		3.373	.001
Product_perception	-.132	.079	-.122	-1.672	.096
Culture	.080	.110	.053	.728	.468

a. Dependent Variable: Accept_sharing_transportation

Fig. 6. Multiple Regression Analysis: Effect of culture and product perception on transportation sharing.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	2.445	.460		5.313	.000
Product_perception	.439	.084	.359	5.219	.000
Culture	-.156	.118	-.091	-1.327	.186

a. Dependent Variable: Accept_repair

Fig. 7. Multiple Linear Regression Analysis: Effect of culture and product perception on repairing.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.110	.337		3.295	.001
	Involvement_EC	.550	.077	.454	7.169	.000

a. Dependent Variable: Biological_cycle

Fig. 8. Multiple Linear Regression Analysis: Effect of involvement in the CE on biological cycle.

Figure 4 reveals a significant finding for the predictor variables individ_collective and masc_vs_fem, with $\beta = 0.283$, $p<0.05$ and $\beta = -0.245$, $p<0.05$ respectively. Thus, the connection between the predictors of individualism vs collectivism and the outcome is positive, while the connection between the predictor's masculinity vs. femininity and the outcome is negative. This means that collectivism and femininity increase the involvement in circular economy practices. In other words, a person with collectivism traits, gives attention to the well-being of the group and femininity traits, cooperative and puts personal life first, is more likely to be involved in the circular economy.

Moving forward, a multiple regression between each of the Butterfly Diagram's loop (dependent variable) and the independent variables, culture and product, was executed. The scope of this analysis is to find out the connection between the two independent variables and the acceptance level of each circular economy model. The variable culture represents the magnitude to which a person is influenced by family and personal beliefs. while the variable *product perception* shows the way people perceive products considering brand and the product-success association. The two variables are indicators for the Romanian consumption culture. We assume that these influence the consumer's acceptance of circular practices.

The first loop refers to the concept of sharing. To better understand the view of the consumer regarding sharing, products and transportation services were separated. Figure 5 presents the significant finding ($p<0.05$) of the multiple linear regression. So, the product perception culture and acceptance influence sharing. The positive relationship suggests that a person influenced by culture and product perception is inclined in take part in this type of model.

Unlike the sharing product model, the regression analysis between the involved independent variables and the acceptance of the transportation services showed no significant result (Figure 6). Therefore, culture and product perception do not influence the acceptance of alternative transportations methods.

Looking at the repair loop, a significant finding was identified through the multiple linear regression analysis (Figure 7). More exactly, the significance is only related to the product perception variable ($p<0.05$). The positive relation indicates that the acceptance of repairing is higher when the consumer thinks that brands matter and products are symbol of success. We may assume that these consumers will buy prestige and more expensive products and out of desire to keep them for as long as possible, they will repair them.

When performing a multiple linear regression between variable Y, the rest of the technical loops (redistribute, refurbish, recycle), as well as biological loop, and the two independent variables, we found out that there is no significant impact. This means, that the culture and perception of the product do not influence the other loops proposed by Ellen MacArthur Foundation. In addition, a significant relation between the biological cycle (variable Y) and the involvement level in the CE (variable X) was uncovered (Figure 8). Hence, the more involved a person is in the circular economy, the more inclined is the acceptance of the biological practices. For the sake of fulfilling the third objective of the paper, recognition of effective circular behavior models, multiple multi responses frequencies were executed.

In terms of sharing (Figure 9), people would take advantage of this model especially for electronics (59.7%) and car (56.8%). When it comes to means of transportation, excepting the case of bicycle, people were keen in adopting public transportation (61.4%) and carpooling

(54%). The most desired service is replacing. In other words, most people are fond of the idea of having their old product replaced with a new one.

Regarding the redistribution model (Figure 10), people would approve of purchasing used cars (77.2%), homes (63.6%), clothing (56%) and electronics (53.6%). The least two on the list are formal clothing (34.8%) and phones (37%).

In the case of refurbish (Figure 11), the most appealing products are the electronics (57.9%), cars (50.3%) and clothing (48.7%); and the least appealing are formal clothing (25.4%) and phones (32%).

$Sharing_model Frequencies

		Responses		Percent of Cases
		N	Percent	
$Sharing_model[a]	sharing_electronics	105	10.4%	59.7%
	sharing_clothing	56	5.6%	31.8%
	sharing_formal_clothings	38	3.8%	21.6%
	sharing_house	40	4.0%	22.7%
	sharing_phone	66	6.5%	37.5%
	sharing_car	100	9.9%	56.8%
	sharing_furniture	32	3.2%	18.2%
	sharing_public_transp	108	10.7%	61.4%
	sharing_carpooling	95	9.4%	54.0%
	sharing_bicycle	81	8.0%	46.0%
	Sharing_repair	77	7.6%	43.8%
	sharing_mentain	95	9.4%	54.0%
	sharing_replace	116	11.5%	65.9%
Total		1009	100.0%	573.3%

a. Dichotomy group tabulated at value 1.

Fig. 9. Sharing Models.

$Redistribute_models Frequencies

		Responses		Percent of Cases
		N	Percent	
$Redistribute_models[a]	redistrib_electronics	99	14.8%	53.8%
	redistrib_clothing	103	15.4%	56.0%
	redistrib_formal_clothing	64	9.6%	34.8%
	redistrib_home	117	17.5%	63.6%
	redistrib_phone	68	10.2%	37.0%
	redistrib_car	142	21.2%	77.2%
	redistrib_furniture	76	11.4%	41.3%
Total		669	100.0%	363.6%

a. Dichotomy group tabulated at value 1.

Fig. 10 Redistribute Models.

$Refurbish_models Frequencies

		Responses		Percent of Cases
		N	Percent	
$Refurbish_models[a]	Refurbish_electronics	114	19.1%	57.9%
	Refurbish_clothing	96	16.1%	48.7%
	Refurbish_formal_clothing	50	8.4%	25.4%
	Refurbish_house	89	14.9%	45.2%
	Refurbish_phone	63	10.5%	32.0%
	Refurbish_car	99	16.6%	50.3%
	Refurbish_furniture	87	14.5%	44.2%
Total		598	100.0%	303.6%

a. Dichotomy group tabulated at value 1.

Fig. 11 Refurbish Models.

$Recycle_models Frequencies

		Responses		Percent of Cases
		N	Percent	
$Recycle_models[a]	Recycle_electronics	117	19.3%	59.4%
	Recycle_clothing	122	20.1%	61.9%
	Recycle_house	110	18.1%	55.8%
	Recycle_phone	74	12.2%	37.6%
	Recycle_car	76	12.5%	38.6%
	Recycle_furniture	108	17.8%	54.8%
Total		607	100.0%	308.1%

a. Dichotomy group tabulated at value 1.

Fig. 12. Recycle Models.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.740	.046		16.252	.000
	Recycle_quality	-.112	.015	-.461	-7.303	.000

a. Dependent Variable: Accept_recycle

Fig. 13. Linear Regression Analysis: Effect of quality assumption on recycle product acceptance.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.795	.056		14.228	.000
	Refurbish_quality	-.117	.017	-.447	-7.034	.000

a. Dependent Variable: Accept_refurbish

Fig. 14. Linear Regression Analysis: Effect of quality assumption on refurbished product acceptance.

Looking at the last loop (Figure 12), recycled products that are considered by the consumer to be most attractive are clothing (61.9%), electronics (59.4%), houses (55.8%) and furniture (54.8%). The least attractive product is like refurbish and redistribute, the phone (37.8%).

The multiple multi responses frequencies point out that sharing is the most accepted model, followed by the refurbish. Thus, we may conclude that the consumer feels more comfortable while perusing the smaller loops of the Butterfly Diagram. We recommend companies to implement servitization into their business models.

If we consider all the loops, our survey shows that the most circular products are electronics. This might be because electronics tend to be unpersonal products that serve specific needs. On the other hand, mobile phone are the last desired circular products. The lack of trust in the circular mobile phones is obvious. But, concentrating on a positive note, consumer is acknowledging circular electronics. We believe that the reason for this is the consumer's assumption that, unlike phones, those are not used that often and the quality is maintained.

Starting from the assumption, that the quality of the refurbished respectively recycled product is inferior to one that is made from new materials, a multiple regression analysis was performed. The results indicate a significant finding in both cases ($p<0.05$) and a negative connection. The more a consumer thinks that the quality of the mentioned products is lower, the less he accepts those products (Figure 13 and Figure 14).

5. CONCLUSION

To sum things up, circular economy proposes models that reduce, reuse, recycle and recover materials or products. Thus, the life of the products is prolonged while ecological, economic and social benefits are generated.

Because consumers are the center of the circular economy, his acceptance of the model is essential. Therefore, the study analysis the consumer' beliefs and attitudes to recognize the level of knowledge and involvement.

Starting from the cultural dimensions defined by Hofstede, the multiple linear regression indicates that the circular economy practices could only thrive in a collective which understands the importance of cooperation. The emphasis on partnerships and common goals is disclosed in several studies on the circular economy.

Moreover, our study examined if the Romanian consumer culture influences the circular economy practices. Culture in our case takes into consideration influence of the family and personal values, perception on brands and social status implied by the products. It has been revealed through regression analysis that culture has an impact only on the small loops of Butterfly Diagram, sharing and repairing. Thus, from the trust in family and in the own values and from the desire use state-of-the-art products, consumer from Romania might decide either to share the product or to keep it for as long as possible through repairing. The desire to have modern products is also highlighted. Replacing the old product with a new one was identified as being the most preferred service.

When it comes to the recognition of effective circular models, sharing is most accepted. In other words, repairing, maintaining and especially replacing are the benefits that most appeal to the Romanian consumer, making the sharing model most likely to be adopted.

Future studies may include discovering what consumers' factors influence the rest of the technical loops (recondition, refurbish, recycle) and the biological loop, as well as developing circular economy strategies to implement in Romania.

6. REFERENCES

[1] Rockström, J., et al., *Planetary boundaries: Exploring the safe operating space for humanity,* Ecology and Society, 14(2), 2009.

[2] Esposito, M., Tse, T., Soufani, K., *Is the Circular Economy a New Fast-Expanding Market?,* Thunderbird International Business Review, 59(1), pp. 9–14, 2017.

[3] Vermeşan, H., Mangău, A., Tiuc, A. E., *Perspectives of circular economy in Romanian space,* Sustainability, 12(17), pp. 1–29, 2020.

[4] Kirchherr, J., Reike, D., Hekkert, M., *Conceptualizing the circular economy: An analysis of 114 definitions,* Resources, Conservation and Recycling, 127, pp. 221–232, 2017.

[5] Rizos, V., Tuokko, K., Behrens, A., *The circular economy, a review of definitions, processes and impacts*, 2017.

[6] Hofstetter, J. S. et al., *From Sustainable Global Value Chains to Circular Economy—Different Silos, Different Perspectives, but Many Opportunities to Build Bridges*, Circular Economy and Sustainability, 1(1), pp. 21–47, 2021.

[7] Lakatos, E. S., Cioca, L. I., Dan, V., Ciomos, A. O., Crisan, O. A., Barsan, G., *Studies and investigation about the attitude towards sustainable production, consumption and waste generation in line with circular economy in Romania*, Sustainability, 10(3), pp. 1–25, 2018.

[8] Kotler, P., Amstrong, G., *Principles of marketing (11 ed.),* New York, Pearson International, 2016.

[9] Maniatis, P., *Investigating factors influencing consumer decision-making while choosing green products*, 132, pp. 215–228, 2016.

[10] Cirnu, C. E., Kuralt, B., *The impact of employees' personal values on their attitudes toward sustainable development: cases of Slovenia and Romania*, Management Journal, 18, 2013.

[11] Tunn, V. S. C., Bocken, N. M. P., van den Hende, E. A., Schoormans, J. P. L., *Business models for sustainable consumption in the circular economy: An expert study*, Journal of Cleaner Production, 212, pp. 324–333, 2019.

[12] Hofstede, G., *Dimensionalizing cultures: The Hofstede model in context*, Online readings in psychology and culture, 2.1, pp. 2307–0919, 2011.

[13] Ellen MacArthur Foundation, *Butterfly Diagram*, https://ellenmacarthurfoundation.org/circular-economy-diagram.

[14] Ellen MacArthur Foundation, *Definition*, https://ellenmacarthurfoundation.org/topi

cs/circular-economy-introduction/overview (accessed Mar. 20, 2022).

[15] Stahel, W. R., *Circular economy - A new relationship with our goods and materials would save resources and energy and create local jobs*, Nature, 531, pp. 435–438, 2016. Available: https://www.nature.com/articles/531435a.pdf

[16] United Nations, *The Sustainable Development Agenda*, https://www.un.org/sustainabledevelopment/development-agenda/.

[17] United Nations, *Goal 12: Ensure sustainable consumption and production patterns*, https://www.un.org/sustainabledevelopment/sustainable-consumption-production/.

[18] Lüdeke-Freund, F., Gold, S., Bocken, N. M. P., *A Review and Typology of Circular Economy Business Model Patterns,* Journal of Industrial Ecology, 23(1), pp. 36–61, 2019.

[19] Guide, V. D. R., Van Wassenhove, L. N., *The evolution of closed-loop supply chain research*, Operations Research, vol. 57, no. 1, pp. 10–18, 2009.

[20] Jammernegg, W., Reiner, G., Wakolbinger, T., *Circular Supply Chain: Combining Supply Chain Strategy and Circular Economy*, Handbuch Produktions- und Logistikmanagement in Wertschöpfungsnetzwerken, Boston, De Gruyter Oldenbourg, pp. 67–85, 2018.

[21] Staicu, D., Pop, O., *Mapping the interactions between the stakeholders of the circular economy ecosystem applied to the textile and apparel sector in Romania*, Management and Marketing, 13(4), pp. 1190–1209, 2018.

[22] Stahel, W. R., *The circular economy: A user's guide,* 2019.

[23] Vehmas, K., Raudaskoski, A., Heikkilä, P., Harlin, A., Mensonen, A., *Consumer attitudes and communication in circular fashion*, Journal of Fashion Marketing and Management, 22(3), pp. 286–300, 2018.

[24] Smith, J. G., Fred. E. Clark, *Principles of Marketing*, The Economic Journal, 38(151), p. 450, 1928.

[25] Trudel, R., *Sustainable consumer behavior*, Consumer Psychology Review, pp. 85–96, 2018.

[26] Salvioni, D., Almici, A., *Circular Economy and Stakeholder Engagement Strategy*, Symphonya. Emerging Issues in Management, 1, p. 26, 2020.

[27] UCLG Policy Statement, Culture: Fourth Pillar of Sustainable Development, *Uclg*, 2009, http://www.agenda21culture.net/sites/default/files/files/documents/en/zz_culture4pillarsd_eng.pdf

[28] Zheng, X. *et al.*, *Consideration of culture is vital if we are to achieve the Sustainable Development Goals*, One Earth, 4(2), pp. 307–319, 2021.

[29] UNESCO, *The Convention on the Protection and Promotion of the Diversity of Cultural Expressions*, https://en.unesco.org/creativity/convention (accessed Apr. 23, 2022).

[30] Nosratabadi, S., Mosavi, A., Shamshirband, S., Zavadskas, E. K., Rakotonirainy, A., Chau, K. W., *Sustainable business models: A review*, Sustainability, vol. 11, no. 6, pp. 1–30, 2019.

[31] Sousa-Zomer, T.T., Cauchick Miguel, P.A., *Sustainable business models as an innovation strategy in the water sector: An empirical investigation of a sustainable product-service* system, Journal of Cleaner Production, vol. 171, pp. S119–S129, 2018.

[32] Govindan, K., Hasanagic, M., *A systematic review on drivers, barriers, and practices towards circular economy: a supply chain perspective*, International Journal of Production Research, vol. 56, no. 1–2, pp. 278–311, 2018.

[33] Ellen MacArthur Foundation. *Towards the Economy*, Russian Economic Developments (in Russian), 8, pp. 26–29, 2013.

[34] Sharma, A., Foropon, C., *Green product attributes and green purchase behavior: A theory of planned behavior perspective*

with implications for circular economy, Management Decision, 57(4), pp. 1018–1042, 2019.

[35] Abdullah, M.I., Dechun, H., Sarfraz, M., Ivascu, L., Riaz, A., *Effects of Internal Service Quality on Nurses' Job Satisfaction, Commitment, and Performance: Mediating Role of Employee Well-Being*, Nursing Open Journal, 8(2), ISBN 2054-1058, 2020.

[36] Izvercian, M., Potra, S., Ivascu, L., *Job Satisfaction Variables: A Grounded Theory Approach*, 13th International Symposium in Management (SIM2015), Procedia - Social and Behavioral Sciences, 221, ISBN 1877-0428, 86-94, , Timisoara, Romania, 2015.

[37] Draghici, A., Baban, C.F., Ivascu, L.V., Sarca, I., *Key Success Factors for University - Industry Collaboration in Open Innovation*, 8th annual International Conference of Education, Research and Innovation (ICERI 2015), ISBN 978-84-

608-2657-6 (ISSN: 2340-1095), pp. 7357-7365, Seville, Spain, 2015

[38] Sarfraz, M., Ivascu, L., Radian, B., Artene, A., *Accentuating the Interconnection between Business Sustainability and Organizational Performance in the Context of the Circular Economy: The Moderating Role of Organizational Competitiveness*, Business Strategy and the Environment Journal, 30(4), pp. 2108-2118, ISSN 0964-4733, 2021.

[39] Cioca, L.I., Ivascu, L., Rus, S., *Integrating Corporate Social Responsibility and Occupational Health and Safety to Facilitate the Development of the Organizations*, 4th Review of Management and Economic Engineering, Vol. The Management Between Profit and Social Responsibility, ISBN 2247-8639, Cluj-Napoca, Romania, pp. 2-7, 2014.

Importanța economiei circulare. Modele de comportament circular în România

Rezumat: Problemele consumerismului indică faptul că omenirea trăiește cu mult peste mijloacele pe care planeta le poate oferi. Conceptul de economie circulară este o soluție pentru probleme precum schimbările climatice, pierderea biodiversității, deșeurile și poluarea. Pentru a implementa conceptul și a rezolva preocuparea privind consumul de rezerve la nivel mondial și amprenta de mediu asociată acestuia, consumatorii trebuie să fie evaluați și înțeleși. S-a realizat un sondaj pentru a afla atitudinile consumatorilor față de modelele circulare. Scopul studiului este de a determina nivelul de cunoștințe și de implicare a consumatorilor în economia circulară, de a identifica profilul consumatorilor și de a recunoaște modele circulare eficiente. Rezultatele arată că majoritatea consumatorilor sunt mai conștienți de conceptul de sustenabilitate decât de economie circulară. De asemenea, rezultatele arată că feminitatea și colectivismul sunt singurele două dimensiuni culturale care influențează nivelul de implicare în economia circulară. Mai mult decât atât, s-a identificat că și cultura de consum influențează modelul de partajare și că partajarea este cel mai acceptat model circular în România.

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