How to increase Consumer acceptance of the transition to Circular Economy

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Abstract. The transition to the circular economy (CE) is a major theme for stakeholders from business and politics, but if the transition is supposed to be successful, we must shift our attention to consumers and their behavior as well. We know from literature that consumers don't have enough information about CE and therefore we have to find way how to increase their knowledge. The lack of consumer awareness and acceptance has been mentioned as an important barrier for the development of a CE. Manufacturers will arrange their products to services and will have to convince consumers to switch from consuming products to consuming their services. The products will remain the property of the manufacturers and customers will buy the services they provide. The business model turns around. Are consumers prepared to this change?

Key words: Circular Economy, Consumer, Transition

JEL Classification: *M31, Q56*

1 Introduction

The transition to the circular economy is a socio-political-economic phenomenon that deserves deeper scientific examination. It is a change that we can compare to the industrial revolution by its impact and scope, a change that society and the economy must adapt. The transition to the circular economy is a major challenge for entrepreneurs - companies – producers and we will show that for consumers as well. The transition to a circular economy is a tool to deal with climate change, which will be the most important issue of the next decade.

2 Methods

The basic methods of scientific heuristics such as analysis, synthesis, induction, deduction, description, comparison are used in the paper.

Public survey made by online united questionnaire, by method CAWI - Computer Assisted Web Interviewing. Method CAWI means that respondents are recruiting online and answers online questionnaire. This methodology allowed display picture, videos, and tables. CAWI combinate advantages of qualitative and quantitative survey.

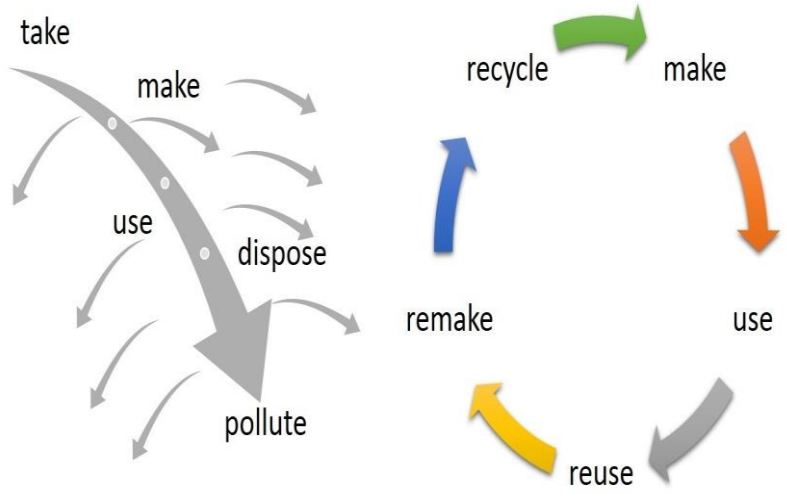
Data analysis was realized on a sample of 511 respondents. Respondents for the survey were select from Slovak National Panel. Target group was internet population 15+.

The survey was made by the company Nielsen/ Admosphere.

3 Fundamentals of the Circular Economy

CE has the potential to understand and implement radically new patterns and help society reach increased sustainability and wellbeing at low or no material, energy and environmental costs. (Ghisellini, 2015) CE could be a solution to the need for reducing the environmental impacts of business-as-usual economic systems. (Ghisellini, 2015)

Pic. 1 Linear Economy vs. Circular Economy



The theme of the Circular Economy is very actuall and young as well. It means that the amount of the scholarly literature is limited. More than 100 articles were published on the topic in 2016, compared to only about 30 articles in 2014 in (Kirchher).

The concept of the Circular Economy has been gaining momentum since the late 1970s (EMF, 2013b). Several authors, like Andersen (2007), Ghisellini et al. (2016), and Su et al. (2013) attribute the introduction of the concept to Pearce and Turner (1989).

The concept of Circular Economy is based on several economic scholars. The main base is the theory "cradle to cradle" from Michael Braungart a Bill McDonough. Second main source is the theory of Waltera Stahela Looped and Performance Economy and the theory of Industrial Ecology (Preston 2012).

The most renowned definition has been framed by the Ellen MacArthur Foundation, introducing the Circular Economy as "an industrial economy that is restorative or regenerative by intention and design" (EMF, 2013b). Geng a Doberstein (2008: 231) describes CE as the realization of closed loop material flow in the whole economic system.

Very appropriate definition of Circular Economy is when CE seems like a regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintains, repair, reuse, remanufacturing, refurbishing, and recycling. (Geissdoerfer). Most of the scientist analyzes is focus on the transition to CE in China and Europe.

4 Discussion

Progress in the transition to CE depends on the acceptance of this concept by the consumers because CE push consumer to change their habits and goes beyond the individual purchase of new products to new forms of consumption. Consumers change roles in a CE from buyer and user to purchasers, maintainers, repairers, sellers, sharers, collaborators, and waste discarders.

The lack of consumer awareness and acceptance has been mentioned as an important barrier for the development of a CE therefore we have to increase their awareness about CE. We can use consumers fears about environment and climate change as far as consumers inclination for innovations for increasing interest and knowledge about circular economy.

Specifically, consumers have to change their traditional roles as individuals who buy and use goods (e.g., reusing, repairing, refurbishing, remanufacturing, recycling) to include new consumption forms, such as peer-to-peer transactions, sharing, borrowing and leasing.

Manufacturers will change their products to services and will have to convince consumers to switch from consuming products to consuming their services. The products will remain the property of the manufacturers and customers will buy the services they provide. The business model turns around.

Manufacturers will need to design and manufacture products to return to their customers after they have done their job so that they can be used by others, or repaired

or recycled, and this will require a new look for products, their usage and handling with them.

Consumer awareness and interest and involvement in the CE is low (Siet J. Sijtsema, 2019) and therefore we need increase their knowledge and interests. We can use several emotional associations and feelings whitch were mentioned in this study. Within the context of this study, at the beginning and the end of the session, consumers expressed concerns about the critical situation of planet Earth. They raised this issue in phrases such as, “If we continue like this, we will not make it.”

4.1 Key factors for incorporation Consumer to transition to CE

Acceptance of CE

Circular Economy and the concept of circularity is usually analyzed from the production and business point of view but for development of the CE is necessary to incorporate consumers to this transition. We have to increase consumers awareness ant thru the awareness also the acceptance.

Some companies participate in the circular economy through the production of recycled products however, these initiatives will only be successful if consumers are willing to accept these circular products with some compromises or thru innovations there will be no differences between products made from primary raw material and recycled material. Therefore, consumers’ acceptance of recycled products is a key factor for ensuring success of circular business models.

Most studies in which consumers have been questioned about their knowledge and acceptance of the CE have focused on specific solutions and studied consumer acceptance of specific types of products or functions, especially in relation to fashion and phones (e.g., explored the factors that influence consumer acceptance of refurbished mobile phones; they identified consumers’ lack of awareness, a misunderstanding of what refurbishment actually entails, and a negative trade-off between perceived risks and benefits). A review of these studies showed that the acceptance of a CE depends on personal characteristics (e.g., materialism), product and service offerings (e.g., product quality), knowledge and understanding, experience and social aspects (e.g., privacy), perceptions of risks and uncertainty, benefits, and other psychological factors (e.g., norms). (Ghisellini, 2015).

Environmental concern

Environmental concern (EC) plays an important role in the influencing of consumer habits and influencing purchasing choices as well (Newton et al., 2015; Trivedi, Patel, & Acharya, 2018; Yarimoglu & Binboga, 2019). EC can be understood as the individuals' answerer to pollution and the degradation of natural resources (Trivedi et al., 2018). This holds a important place in the theoretical frameworks used for predicting green purchasing behavior. For instance, EC is one of the beliefs that

constitute attitude in the theory of planned behavior framework (Cerri, Testa, & Rizzi, 2018) and personal norm in the value–belief–norm theory (Stern, Dietz, Abel, Guagnano, & Kalof, 1999).

Purchasing behavior

Purchasing behavior is one of the most important behavioral manifestations of an individual's commitment to the environment.

We can use consumers environmental concerns to change their purchasing behavior. We need to increase knowledge of the consumers which purchasing behavior is in favor with the transition to CE and thru this transition we can satisfy their environmental concerns.

Stern (2000) identified four environmentally significant behaviors, which are influenced by the same set of causal variables: environmental activism, non-activist public-sphere behaviors, private sphere environmentalism (which also encompasses green purchasing behaviors), and behaviors affecting organizational decisions.

Innovations

The concept of the circular economy is increasingly linked with the concept of innovation (Bocken, De Pauw, Bakker, & van der Grinten, 2016). Many companies are implementing innovative solutions for recovering waste and producing a new product or packaging through recycling or upcycling (Gusmerotti, Testa, Corsini, Pretner, & Iraldo, 2019).

Investigating the drivers of circular purchasing behaviors therefore cannot exclude consumer innovativeness (CI), that is the personal "predisposition to buy new and different brands and products rather than remaining with previous choices and consumption patterns" (Steenkamp, Ter Hofstede, & Wedel, 1999).

There are at least two types of CI: (a) "general innate innovativeness," i.e. a generalized predisposition to the adoption of innovations applicable across different product categories, and (b) "domain-specific innovativeness," i.e. the predisposition to adopt innovative products in a specific product category (Kuswati, 2018; Roehrich, 2004).

Slovak consumers are prepared to change their consume behavior to protect climate change.

We used the theoretical basis mentioned in the paper to find if Slovak consumers have equal environmental concerns and if they are prepared to change their consume behavior to protect climate change and if we can use these concerns to push transition to circular economy.

In the cooperation with the company ASEKOL SK, which is Producer Responsibility Organization (PRO) for WEEE, packaging and battery and accumulators, we made

opinion research. We asked people about their environmental habits, separate collection of waste, littering and concerns connected with climate change.

The result from the survey is that consumers in Slovakia are prepared to change their consume behavior because they are afraid about climate change. Opinion research witch we made in September 2021.

The most significant question was: Are you prepare to change your consumer behavior in favor of climate protection?

The results of the opinion research were that most of the consumers are prepared to change their consumers behavior. This result was made in all Age groups as far as in all Education groups.

Are you preparing to change your consumer behavior in favor of clime protection?

		Yes	**I don't know I need more information.**	**No**	**I am not interested**	**No I am not, I am not interested**
Summary		76,8%	15,7%	4,6%	2,8%	7,5%
Sex	Man	76,0%	13,4%	6,7%	3,8%	10,5%
	Woman	77,6%	17,9%	2,7%	1,9%	4,6%
Age	15-24 years	76,3%	14,5%	7,8%	1,3%	9,1%
	25-34 years	76,9%	18,2%	4,0%	,9%	4,9%
	35-44 years	76,1%	16,0%	4,7%	3,2%	7,9%
	45-54 years	71,4%	16,3%	5,1%	7,3%	12,4%
	55 and more	82,4%	13,3%	2,6%	1,8%	4,4%
Education	Elementary and Second education without graduation.	70,4%	21,3%	4,8%	3,5%	8,2%
	Secondary with graduation.	76,7%	14,9%	5,6%	2,8%	8,5%
	University	84,7%	10,1%	3,0%	2,1%	5,1%
Size of residents	Village	73,8%	19,7%	5,3%	1,3%	6,5%
	Small and middle town	78,1%	13,0%	4,9%	4,0%	8,9%
	City	82,9%	11,0%	1,5%	4,5%	6,1%
Region	West Slovakia	78,8%	15,5%	3,3%	2,4%	5,7%
	Center Slovakia	72,7%	21,8%	3,9%	1,6%	5,5%
	East Slovakia	76,9%	10,9%	7,5%	4,6%	12,2%

Research was made in August 2021 by Nielsen/ Admosphere, for company ASEKOL SK. Methods online questionnaire, CAWI, respondents were select from Slovak National Panel.

5 Results and Conclusion

If we want to increase participation and acceptance of the transition to CE from consumers, we have to increase communication. We have to increase consumers knowledge about CE.

We have to link CE with other environmental issues. We have to sell CE as a part of solution of the climate change problem and as a tool how to reach carbon neutrality earlier and in sustainable way.

As was mentioned, consumers have been participating on the transformation to CE but they don't know that this service or product is a part of CE. We have to increase knowledge about what is CE and what is part of the CE.

Consumers are prepared to participate on the transition to CE because they love innovations, and they are afraid about environmental issues. Products and services which are part of the transition are not always sell as a part of the CE.

We have to communicate to the customers that CE is not still separate collection of waste or recycling, but they have to change their purchasing behavior.

We have to increase understanding of consumers' preferences, which would help in creating CE business models that are attractive in the eyes of consumers.

We propose three significant factors that are of interest to consumers regarding the services provided within the circular economy: ease of use, decreased environmental impact, and reduced cost.

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