Circular Economy Shadows

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Abstract: The effects of the Circular Economy (CE) are positive and negative. However, the beneficial aspects are widely considered. The CE creates a link between economic growth and limited resources by cuts waste from the production system. Therefore, CE is associated with increased prosperity, the ecological added value from products and processes with reduced emissions. There are doubts related to the jobs generated by the CE, costs of other resources usage, and consumption reduction or maximization of existing products. The adopted methods in this paper are an inductive inference method supported by a case study. The study presents examples of spectacular problems coming from the transformation towards CE.

Keywords: Green Economy, Management, Sustainable Development.

1. Introduction

The CE is a consequence of the theoretical assumption, such Sustainable Development (SD) idea, and its translation into business practice. The CE reflects the natural environment circular processes and relies on the closing linear production processes into loops. The CE is a response to global natural environment problems and depletion of resources, which have an impact on wellbeing. The significant majority of research studies rely on the conviction that CE brings usually positive effects (Andersen, 2007). These studies cover more social and environmental issues. In this context, we identified a research gap, clearly assuming that there are no such phenomena without negative aspects.

This paper aims to present and discuss the negative effects of the transformation towards the CE. In this article, we present chosen examples of the failures in the implementation of CE processes and actions at the different levels of management (micro-, meso- and macro-level).

2. Method

The adopted method used in this paper is the case study approach proposed by Eisenhardt (2021). This method is classified as a qualitative one. The method of individual cases was used due to the generally known regularities that require exemplification (Hays, 2019, pp. 234–251). In management sciences, the case study method consists of describing an economic phenomenon to formulate conclusions about the causes and results of its course. Thanks to the use of the case study method in the research procedure, it is possible to analyse the problem under study, its uniqueness, and its relations with other organizations or the environment.

In this research project, five individual cases of CE problems specific to a larger population of geographical regions or sectors were analysed. These failures can be seen at the different levels of management.

3. Case Study Results

Most studies and press reports show the positive aspects of CE related to reducing negative environmental and social impacts (Busu, 2019). Presented in Table 1 examples illustrate, the conviction that CE next to the positive effects brings also some negative consequences. The provided cases reflect local changes which can happen worldwide and global problems. For example, electricity consumption increased, although the movement of people and transport decreased in the pandemic or were limited in years 2019-2021. The general consumption increased significantly (also due to the increase in the use of the Internet), and the use of parcels also increased, which contributed to an increase in the consumption of paper and plastic packaging and the intensification of logistics. In this specific area, there is a problem with the idea of how to re-use the parcels' packaging Due to lockdown and remote work, people all over the world spent more time at home. As a result, there was an increase in interest in the renovation of flats and houses and an increase in garden works. This change in customer behavior contributed to sales growth in the construction, furniture, and horticulture industries, and bigger raw materials consumption.

It seems that treating CE as a panacea for the problems of environmental degradation carries the risk of generating other problems. Assessing changes from a global perspective, it can be said that solving one problem generates another because difficult issues are interrelated and often repeated. Selected case studies concern various situations in which problems resulting from incorrect assumptions or improper implementation of CE emerged.

Table 1. Circular Economy problems

Country	Economy sector	Description of problem
Mexico	Electricity generation	Renewable energy generation from the wind farm in Oaxaca caused controversy due to the negative impact on the land value also "wildlife has been disturbed and promises to build community parks have been broken" (Baverstock, 2019).
Poland	Mining and electricity generation	The immediate closure of a major brown coal mine in Turów can shake the Polish energy system and can lead to the loss of thousands of jobs. The closure of the "operation of the mine and connected power plant that generates 7% of Poland's electricity" (Agence France-Presse, 2021) can affect the power network stability.
USA	Fashion industry	The apparel and footwear market are projected to grow about 5% yearly through 2030. The challenge is an endless growth in consumption. Then "increasing efficiency doesn't lead to less consumption it leads to more" (Moss, 2019).
Worldwide	Transport and logistics	There is a growing number of parcels and services related to the transportation of goods across the world. This economic sector generated not only direct CO_2 emissions but also tones of used packages (van Buren, Demmers, van der Heijden, & Witlox, 2016).
Worldwide	Agriculture	Agriculture and food are the second-largest sources of greenhouse gas emissions – making up around 30% of the global total - but more importantly, are the single biggest driver of biodiversity loss. Agriculture also consumes some 70% of all water and largely determines what happens to soils – arguably our most fundamental form of natural capital. The agricultural industry development is based on economies of scale, monoculture, intensification, and chemical input" (Poschen, 2021).

Source: Author's elaboration

4. Conclusions

The CE is the buzzword of the moment in green economy and management circles. The CE promotes the illusion that we can tackle all our ecological problems through engineering. It promises growth for the business and this is exactly the problem. While technical solutions can result in a lower per-unit impact, the environmental benefits will be largely offset by economic growth. Economy and development are in the opposition to resource protection. Every economy is resource-based, the advantage of CE is that it can minimize the use of natural resources, the amount of waste, and emissions, and energy consumption. When looking for solutions to problems in CE, they should be analyzed in the long term, bearing in mind a wide range of stakeholders. It seems necessary to change the approach to this phenomenon and to "seal" the processes taking place in CE in the long term as broadly as possible concerning potential bad effects and problems. Any change in environmental protection and counteracting its further degradation will not bring benefits if it is not supported by a change in lifestyle and reduced consumerism among recipients of goods and services. Such actions are doomed to failure, and their effects can only have a short-term beneficial effect. The most important mistake in the approach to CE is to relate this concept to the ecological dimension in isolation from the economy, which is based on its own rules, where profit and benefit are the basic goals of the organization's activity. The CE can hinder as well as help the situation

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