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Circular economy - trends of evolution in a group of Eastern European countries

Abstract: The adoption of the circular economy (CE) and the implementation of business support policies is a promising approach for every country that wants to reduce the overexploitation of natural resources and ensure the premises of a sustainable economy. Although post-industrial recycling (PIR) and post-consumer recycling (PCR) are measures used to sustain resources by improving material circularity and sustainability, they have had different impacts from one country to another. Thus, the study helps us by comparing the values from the studied indicators (2012-2020), to monitor the global effort towards the circular economy and to classify and group countries from a sustainable perspective, necessary for managerial decision-makers. The study used eight indicators grouped into five study directions, for 8 ex-communist countries that have evolved differently, although the political background is similar, thus proving an important subject of analysis.

The main hypotheses are: (H1) "Is the production and consumption of recycled materials continuous?", (H2) "Is waste management a specific action?" and (H3) "The general result, given by the EC indicators, allows the identification of similarities between countries?".

The purpose of this study is to test the proposed hypotheses and to rank the countries according to the results. To verify the hypotheses, the following was carried out: (1) Analysis of data for missing values and the scale of relative proportions, (2) Analysis of the variability of each indicator and the variability between indicators according to the directions studied and (3) Analysis of the values related to the composite indicator for each country and cluster analysis using Pearson's correlation.

Keywords: circular economy; sustainable development; global effort.

Biography: Associate Professor at Department of Electric Machines and Drives at Technical University of Cluj-Napoca. B.Sc. in Management (in 1997) and Technical Informatics (in 2001), and Ph.D. in Engineering and Management, from Technical University of Cluj-Napoca (in 2009), M.Sc. in Renewable Energy (in 2013). Economist (1997-1999, Prodmaris Impex SRL, 1999-2006, Technical University of Cluj-Napoca and 2006-2014 Music Academy „Gheorghe Dima” from Cluj-Napoca), assistant professor (2014-2020) and associate professor (since 2020) the Technical University of Cluj-Napoca. Research interests include: micro and macroeconomics, renewable economy, accounting, financial management.