

The adoption of Open Innovation practices to promote the circular economy: a territorial exploration.

The Circular Economy (CE) has recently been presented by a large number of development economist as a promising approach for sustainable development (Bakker et al., 2021; Ghisellini et al., 2016; Kirchherr et al., 2017; Korhonen et al., 2018; Rosa et al., 2020). CE operates at the micro (companies, products and consumers), meso (eco-industrial parks and industrial symbiosis networks) or macro-level (cities, regions and national or global governments) (Jesus & Jugend, 2021; Khitous et al., 2020; Skawińska & Zalewski, 2018). This study focuses on the micro level, since a number of studies have pointed out that a detailed understanding of how to progress towards a circular economy on a micro level is lacking (Baratsas et al., 2022; Kristensen & Mosgaard, 2019). Consequently, rather than concentrating on the development of circular business models, we have dedicated to the study of circular products in order to advance CE strategies (Bocken et al., 2016; Cooper, 1983; Franzò et al., 2021).

Scholars have claimed that there is insufficient literature covering the adoption of innovation practices in the implementation of CE initiatives. In particular, Open Innovation (OI) can be seen as a path to reduce technological barriers in the transition from linear to circular products (Ambos et al., 2021; Brown et al., 2020; Elmquist et al., 2009; Giuliani et al., 2015; Lazzarotti et al., 2017; Lema et al., 2019; Manzini et al., 2017). Therefore, this paper examines how companies exploit OI practices to further CE by advancing new product development.

By applying it to a specific case study, this paper is intended to fill the existing gap in the literature that addresses CE and OI. On the example of Uruguay, where government and

Finnish multinational UPM have recently reached a record-setting USD 3 billion agreement to construct a pulp mill in the center of the country, it addresses implications of adopting OI practices for the development of circular production at the micro level.

Using the Participatory Action Research (PAR) methodological framework, this study intends to contribute to the broader literature on territorial (regional) development, sustainability, and innovation by answering the following research question:

How do companies exploit open innovation for developing circular products?

Keywords: Circular economy, Circular products, Open Innovation, Sustainability, Local Development, Pulp Industry, forestry/wood/cellulose sector, Territory, Participatory Action Research.