

Circular economy conceptualization and operationalization

Circular economy (CE) gaining its momentum because it is seen as solution to decouple economic growth and environmental problem. Major economic profit from shifting toward CE in Europe can be translated into cost saving up to 380 billion USD per annum under transition scenario (Ellen MacArthur Foundation, 2013). Despite its potential and many practices that are claimed to be circular, a fundamental issue about conceptualization remains. There is still no clear consensus on how the concept is defined which provide leeway and room of interpretation. Study shows that many define CE as 3R concept and some even equalize it with recycling (Kirchherr, Reike, & Hekkert, 2017). This freedom of interpretation can also lead to any possible definition that is made to justify certain practice, “greenwashing.” Conceptualization issue also hinders the move into operationalization (although many circular practices are existing now due to the nature of CE concept that is derived from various pre-existing school of thoughts); it includes devising proper set of indicators. Indicators are missing key players on CE. Indicators will allow system evaluation and improvement, also preventing false claim about circular practice. Plenty of indicators are proposed but most of them only target environmental aspects (e.g. percentage of recycled materials in products) and leaving the economic aspect out.

Thus, the main aim of this study is to conceptualize and operationalize CE. I will identify the general state of the art of CE, including driver, challenge and opportunity. This study will employ research methods such as literature review, case study that possibly requires primary and secondary data collection, and certain tools application (e.g. statistics, life cycle assessment). The case study area has not completely defined yet, but it is most likely in either waste management area or renewable energy area.

The expected outcomes of the study including CE conceptualization based on its constituents (various school of thoughts that act as CE building block). The conceptualization comprises mapping of CE constituents along the materials life cycle. Moreover, conceptualization will identify primary actors and enablers in each of constituents that will help system improvement at any point of material life cycle. This conceptualization will also be a basis in proposing indicators covering environmental and economic aspects.

References

- Ellen MacArthur Foundation. (2013). *Towards the Circular Economy Vol. 1: an economic and business rationale for an accelerated transition*. London.
- Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling*, 127, 221–232.
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