

Circularity decision making support tool

Developed by the City of Porto

Short Introduction

This tool is designed to assist social institutions, hotels, restaurants, citizens, and tourists in assessing the circularity impacts of their catering decisions. The tool offers clear guidance for users towards the most circular catering choice, based on a scoring system, on what to do each time organic material is used, bought, eaten, or discarded, with priority based on the hierarchy of the Lansink Ladder.

Users can insert measures framed in 5 distinct stages in the management of organic flows in their business model:

1. Product acquisition;
2. Storage;
3. Cooking;
4. Customer contact;
5. Surpluses elimination

This organization helps users identify measures to be taken at different stages. Each measure is subsequently evaluated / scored according to its Environmental performance according to the Lansink Ladder, but also due to their technical and economic feasibility. As a result, the User receives a list of measures hierarchized according to the global score of each one. In addition to the environmental hierarchy, the result also allows measure organization according to their feasibility, facilitating the implementation of a realistic action plan.

Target groups

- Restaurants,
- Social services canteens,
- Hotels

Keywords

- #Data analysis
- #Decision Making
- #Reduce, Reuse, Recycle, Recover organic matter





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Format

- Excel spreadsheet

Deployment

This tool will be tested on selected entities (demo actions) and will be used whenever a stakeholder is identified as a beneficiary of the results the tool can provide.

Replication

- *How could other cities use this tool?*
- *Would they need to develop their own version, which aspects of the tool are adaptable to other contexts, and which ones are unique to your city/context?*
- *Which advice would you share with others who would make use of this tool?*

This tool could be used in other cities by the same type of entities identified before.

Development

- *How was the tool developed?*

The tool was developed based on the multicriteria analysis method. This method is particularly useful for the development of decision-making tools that require not only quantitative, but also qualitative analysis, when problems have aspects that go beyond tangibility. In this way it is possible to define priorities and facilitate the decision-making process in a more rational and reliable way, as it allows the incorporation of important qualitative information.

The defined criteria were:

- Environmental Performance, assessed on the impact of the measures in 2 sub-criteria:
 - Compliance with the waste management strategy;
 - Maintenance of the material value that enters the economy
- Economic Evaluation:
 - Need for investment;
 - Cost / benefit ratio
- Technical evaluation;
- Technological complexity;
- Procedural complexity;
- Complexity of know-how
- Legal framework, within the HACCP standard.



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- *Which data sources were used for this?*

For the development of this tool, the PWC development diagram “The Circular Business Model Avoids Value Leakage” and the strategy for the circular economy adopted by Resolution of the Council of Ministers no. 190-A / 2017 were used.

- *Which stakeholders were involved?*

There weren't stakeholders involvement. It was a research work.

Barriers:

- *Which difficulties occurred in the development of the tool?*
- *How did you solve this issues, which solutions did you find?*
- *Which difficulties to you expect/have you encountered in using this tool?*

There are few data and studies that quantify Environmental performance.

To assess the impact of the measure on the waste management strategy, a qualitative assessment was chosen, translated into a score from 0 to 10. To assess the maintenance of material value, we opted for the percentage result of the PWC study, despite it was not possible to verify the basic calculations of the study.

The fact that now the tool is an excel sheet, puts at risk the feasibility of use by a person who does not understand its operation. On the other hand, the assessment of Environmental performance can be quite complex for those who do not have the basic knowledge about waste management.

Additional Information

For example:

- *Contact points*
- *Next steps*
- *References*
 - “A circular Business Model Avoids Value Leakage”, Diagram – PWC company





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