

Mapping digital tools for assessing circular economy practices in restaurants – An exploratory review

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Objectives | In the last decades there has been an increasing concern with environmental issues which are particularly relevant to the tourism and hospitality industries. At the same time, theoretical and conceptual structures and systems have emerged to guide people, companies, and public and private institutions towards a more sustainable and environmentally responsible future. These include the concept of the circular economy (CE), which can be seen as an alternative economic system that replaces the 'end-of-life' concept with the reduction, alternative reuse, recycling, recovery of materials in production, distribution, and consumption processes, while simultaneously seeking to guarantee environmental quality, economic prosperity and social equity, for the benefit of current and future generations (Kirchherr et al. 2017). It is also important to note that, in addition to guiding principles, stakeholders need operational tools to facilitate the adoption of these principles which can help them reduce costs (Rosendo, 2018). However, there is a lack of studies that focus on these types of tools (Lindgreen, et al., 2020), particularly in the context of self-assessment processes. Based on these premises, this article aims to identify and analyse existing self-assessment tools in the field of CE and Sustainability. This mapping will then allow the selection of the indicators and good practices considered most relevant and their eventual adaptation within the scope of Project CEGaS: Circular Economy for a Sustainable Gastronomy – Diagnosis and Adoption of Good Practices in Restaurants.

Methodology | The research carried out is exploratory and includes a literature review on the main concepts covered, including sustainability related concepts and their connection with CE, performed through scientific databases, such as Scopus and Web of Science. The literature review primarily focuses on publications from 2016 to 2023, despite including sources from the early twenties. Generic and specialized search engines were also used to identify digital self-assessment tools, using the snowball technique. This research, conducted in the second trimester of 2023, allowed the identification of existing digital self-assessment tools. In the third trimester, a

comprehensive content analysis was conducted on these tools, encompassing an extensive array of topics including, but not limited to, promoter, typology, association, results, inputs, and outputs. This analysis facilitated a subsequent categorization, offering an overall view of the diverse functionalities and features.

Main Results and Contributions | The research carried out reinforces the importance of digital tools that facilitate the self-assessment process, as well as the posterior adoption of CE principles and practices in restaurants. Moreover, it has highlighted the diversity of the existing tools, which follow different approaches, providing completely free services in some cases, whereas in others, some functions are only available through paid subscriptions. Some of the tools analysed include different levels of assessment, although not in a continuous evaluation mode, that is, each assessment level requires the fulfilment of the entire form, without the opportunity to simulate the results of different decisions/ options. Most of the tools use a mix of techniques for the collection of data, such as Likert scales, multiple choice, open questions, and checklists, among others. The analysed tools have a significant quantitative approach and focus mainly on the economic and environmental dimensions whereas the social dimension is insufficiently covered, and mainly through qualitative metrics. In addition, the results of this study highlight the potential of these tools, which facilitate a (self)assessment, to foster the adoption of circular economy (CE) practices in restaurants and subsequently drive sustainability through informed decision-making and strategic adoption of CE principles.

Limitations | The main limitations include the fact that some of the online tools analyzed are not available in English, requiring a partial analysis and/or based on automatic translations, which may have restricted the interpretation made. At the same time, and as mentioned, some of the platforms require the payment of subscriptions/licenses, in part or the entire process, so it was not always possible to analyze them in all their functionalities. Finally, the fact that many of the tools differ in the context of application and orientation for different industries may have limited the analysis, especially with regard to the comparability of the platforms.

Conclusions | Overall, and in line with the study of Valls-Val et al. (2023), it can be concluded that self-assessment digital tools can be useful and may stimulate the adoption of CE principles, but require greater investment and further development, particularly in what concerns their application to specific industries and user profiles, namely, the restaurant sector.

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