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Consumer knowledge and perceptions of Circular Economy in the olive oil sector: A study of Tunisians consumers

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Introduction

The olive oil sector plays a highly significant role in Tunisia, not only because of its crucial role in the national economy but also in environmental and social terms**.** It contributes to the national goals of economic growth, food security, job creation, increased export earnings, and preservation and valorization of natural resources that are increasingly rare and vulnerable. Despite the economic importance and the social impacts generated by the olive oil sector, it causes various harmful environmental impacts, in terms of depletion of resources, air emissions, waste generation, etc. mainly due to the practices and techniques used in olive growing and oil extraction (Jellali et al., 2021). In this context, Circular Economy can contribute to increase the sustainability of the Tunisian olive oil sector, by ensuring economic profitability while preserving the natural environment and social well-being. Circular Economy (CE) focuses on the (re)design of processes and products aiming to minimize negative environmental impact, by reducing the use of non-renewable resources, increasing products durability, improving waste management and enhancing the market for secondary raw materials (Galati et al., 2018).

While most of the studies point that consumer comprehension and involvement are necessary points and play a major role to guide them towards more environmentally conscious purchases and to ensure the transition to the circular economy (CE), there is little empirical evidence regarding consumer behavior (Testa et al., 2020; Sijtsema et al., 2019). Indeed, little is known about consumers awareness and interest in the CE particularly in the food sector. The objectives of the present study are threefold: First, to study consumers knowledge of circular economy among Tunisian consumers; second, to define the way consumers perceive the concept of circular economy; and last, to explore motives and barriers for the transition to the circular economy in the olive oil sector according to consumers as well as their perceptions of olive oil produced within a circular economy.

Materials and methods

This study is based on data gathered from a survey conducted on a sample of 270 of regular olive-oil consumers (+18 years) of Tunisia. The survey started on May 2021 (and is still in progress). The sample was a random stratified methodology.

After gathering the information, we performed an exploratory analysis of the knowledge and perceptions of the circular economy, and of the main benefits and barriers to the implementation of a circular economy model in olive oil sector. Subsequently, to identify the issues which consumers associate with circular economy, a principal component factor analysis (Varimax rotation) was used. All analyses were conducted with the SPSS Version 24.0 program.

Results

Consumer knowledge and perception of circular economy

The degree of knowledge of the CE in general was somewhat low, as just 28,8% of consumers stated that they know the definition of CE. The remaining part of consumers claimed that they just heard about the CE (24,2%) or they had never heard about it (47%). Some of the features most reported by respondents were "sustainability of production", "reduce environmental impact" and "recycling" and "waste management".

In order to define the way consumers perceive the concept of circular economy, a Factor Analysis was implemented, aiming to investigate the existence of underlying dimensions (factors) of circular economy, as perceived by consumers. We asked respondents to express their degree of agreement or disagreement concerning sixteen statements related to the benefits of transition to CE models (using Likert scale). Two dimensions of perception on CE were identified by the factor analysis explaining a cumulative variance of 75.62% of the total variance of the consumer responses. The first dimension is called "environmental and economic benefits", and is determined by attributes related to environmental protection, natural resources preservation, pollution reduction, creation of new jobs and new businesses, and benefits for the national economy. The second dimension "benefits for consumers and producers" explains 30% of variance and includes attributes that are essentially related to efficient production, reducing production costs and increasing the profitability for producers. This factor focuses also on the perception of benefits that consumers can obtain by the transition to the circular economy such as new products, healthy food and accessible prices.

Consumer perception of circular economy in the olive oil sector

On the other hand, 36% of respondents associate olive oil production with negative environmental impacts mainly due to water consumption (irrigation need and processing) and waste management, especially olive mill wastewater.

When the respondents were asked about the main barriers for the transition to a circular economy in the olive oil sector in Tunisia, a wide variety of elements were mentioned such as the lack of public awareness being the most important as it was cited by 79% of respondents. Furthermore, the respondents mentioned the lack of financial support (67%) and the lack of legislation (59,5%) as barriers to the circular economy development in the Tunisian olive oil sector.

Among the participants, several motives were indicated regarding why CE should be developed in the Tunisian olive oil sector. First, 80% of consumers mentioned issues such as environmental protection. Second, nearly half of the sample think that the transition to CE should be insured because it will allow costs reduction in olive oil sector.

Within this study, we also asked consumers how they perceive olive oil produced in the context of circular economy compared to conventional olive oil. It appears that most of consumers (57%) associate olive oil obtained from circular economy with being less harmful for the environment, and 43% perceive it as more sustainable regarding social, economic and environmental aspects. Finally, some groups of consumers perceive olive oil issued form a circular economy as produced

according to traditional know-how (23% of respondents) and as having a best quality (20% of respondents).

Conclusion

The present study aimed to analyse consumers' knowledge and perception of the circular economy in the olive oil sector in Tunisia. Findings showed that consumer knowledge of CE is very low although their perception pointed in the right direction. Indeed, consumers' perception of the circular economy was summarised in two main dimensions, "environmental and economic benefits" and "benefits for consumers and producers". When discussing motivation to the transition to CE in Tunisian olive oil sector, consumers showed a great expectation towards environmental and economics benefits. Finally, consumers highlighted the lack of public awareness and financial support as the main barriers to the transition to circular economy in olive oil sector in Tunisia. Hence, public awareness campaigns and financial measures could contribute to foster the transition to a circular economy in the Tunisian olive sector.

Key words: Circular economy; olive oil, consumers, knowledge, perception, Tunisia

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