

# PREFERENCES ANALYSIS OF RESTAURANTS, INDUSTRY AND RETAILERS FOR SELECTING FRUITS AND VEGETABLES SUPPLIERS IN SPAIN, FRANCE AND MOROCCO

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## ABSTRACT

This study focuses on evaluating the criteria used by stakeholders (restaurants, industry, and small-scale retailers) to select fruits and vegetable suppliers in Spain, France, and Morocco targeting three selected countries' specific products and supply chains (fresh tomatoes in Spain, Chestnuts in France, Carob in Morocco). The research consisted firstly of conducting deep interviews (DI) with the main stakeholders in the added-value chain of fruits and vegetables in order to understand factors affecting their decision when selecting suppliers. A special interest was drawn on the criteria “produced by local farmers” in order to determine its relative importance within the stakeholder's decision-making. Secondly, semi-structured questionnaires were carried out by using the analytic hierarchy process (AHP) to estimate the relative importance of each criterion and to evaluate the weight of the sustainable factors. Data were collected from stakeholders in the food-added value chain with a total sample, equally distributed across countries, of 180 restaurants, 30 industries, and 180 small-scale retailers. The survey was applied during the months of May to October 2022. Research results revealed the most important supplier selection attributes vary according to each country and product category. The role of sustainable criteria in selecting suppliers played an important role in particular in France. Local small farmers were important for local industry as sustainable suppliers but less relevant for restaurants and retailers respectively. Improving the sustainability of the supply chain should focus more on retailers and restaurant marketing strategies when purchasing fruits and vegetables in order to set quotas for locally produced products. This outcome highlights the need for a new and optimized business model in which small local farmers can directly supply local restaurants and retailers and contribute to improving sustainability and ensuring reasonable profit for farmers.

Keywords: Food Supply Chain, Stakeholders, Social Sustainability.

## 1. Introduction

The exploitation of new optimized business models in the food supply chain that ensure fair profit to small-scale farmers and improve the social sustainability requires a deep understanding of smallholders' attitudes and preferences for suppliers' selection and markets alternatives. The promotion of Short Food Supply Chain (SFSC) alternatives can play a relevant role in approaching small farmers to local stakeholders. Farmer's willingness to participate in SFSC are affected by a lot of factors that varies from the suitability of the type and volume of products they produce, need for processing and

storage, points of distribution and consumer relationships. The producer also has to take up new roles. In all the cases, stakeholders' acceptance of local farmers as potential supplier is highly important.

## **2. Literature Review**

As commented by Liu and Hai (2005), the supplier selection studies have received extensive attention in supply chain management. Focusing on fruits and fresh vegetables suppliers' literature showed clearly the importance of the economic factors as main driven factors such as the price (Lin and Wu 2011). Criteria such as quality, delivery, responsiveness, technical capability, financial facility, management and discipline are the most relevant factors when analyzing supplier selection. According to Lopes and Rodriguez-Lopez (2021) there is an increasing importance of environmental and sustainability criteria when selecting suppliers for agro food companies. These elements introduce a new requirement to supplier selection in which the "local origin" of suppliers needs to be evaluated.

## **3. Hypotheses/Objectives**

The main objective of this study is to understand the relative importance of the criteria that stakeholders take into account when selecting suppliers of fresh fruits and vegetable in three case studies: fresh tomatoes in Spain, Chestnuts in France, Carob in Morocco (Appendix 1) and to assess the role of the local origin of such products in their decision making and preferences in order to explore the short food supply chain as potential opportunity for small farmers to reach industry.

## **4. Research Design/Methodology**

Data were collected from survey on a relevant sample of stakeholders in Spain, France and Morocco targeting 180 restaurants (60 in each country), 180 small retailers (60 in each country) and 30 industries (10 in each country). The Analytical Hierarchy Process (AHP) method was used as a multi-criteria decision-supporting technique (Saaty, 2007) to estimate the relative importance of 12 screened criteria identified from deep interviews (DI) with main stakeholders in the added-value chain and literature review. Four main categories of criteria to select fruits and vegetables suppliers were identified: Increase economic efficiency, improve production quality, optimize distribution and social responsibility. The global level weights were used by multiplying the local aggregated level weights of the main categories. The evaluation process of the criteria was designed within The Participatory Market Chain Analysis (PMCA) approach (Lundy et al., 2007) which is used to bring the key stakeholders into an Agrifood Innovation Ecosystem (AIE) in which alternative market channels and new business opportunities are co-explored and co-identified to increase farmers' competitiveness.

## **5. Data/Model Analysis**

Results (Appendix 2) showed that the economic factors are in general the most important criteria when selecting suppliers of fresh fruits and vegetables mainly with some level of heterogeneity across countries and stakeholders' types. Results showed that in all cases, the economic factors were the most important factors in Spain while the industry in Morocco and France give more importance for social responsibility. Coming to the

different criteria analyzed and focusing on the “produced by local farmers” feature, results showed that the relative importance of this criterion for the industry was in the first position in France, the second in Spain and the third in Morocco. However, the weight of local origin was less important for retailers and restaurants.

## 6. Limitations

Targeting a significant and representative sample of retailers, restaurants and industry was too challenging. Results are conditioned to the typology of the stakeholders analyzed across countries, their attitudes and business’ objectives. Further analysis that shed light on stakeholders’ heterogeneity and its impact on the criteria relative importance is needed to understand why products produced from local farmers was clearly preferred option. Furthermore, a detailed analysis is needed to assess the role of the different types of fruits and vegetables included in the study in the selection of the most important criteria by stakeholders.

## 7. Conclusions

The social sustainability criteria play an important role for the stakeholders’ decision within the added-value chain when selecting suppliers of fruits and vegetable, particularly in France. The relative importance for the local small-farmers’ criteria was high for the local industry as sustainable supplier but less relevant for restaurant and retailers respectively. Improving the sustainability of the supply chain should focus more on retailers and restaurant marketing strategies when purchasing fruits and vegetable in order to set quotas for locally produced products. This outcome highlights the need of new and optimized business model in which small local farmers can directly supply local restaurants and retailers and contribute in improving sustainability and ensuring reasonable profit of farmers.

## 8. Key References

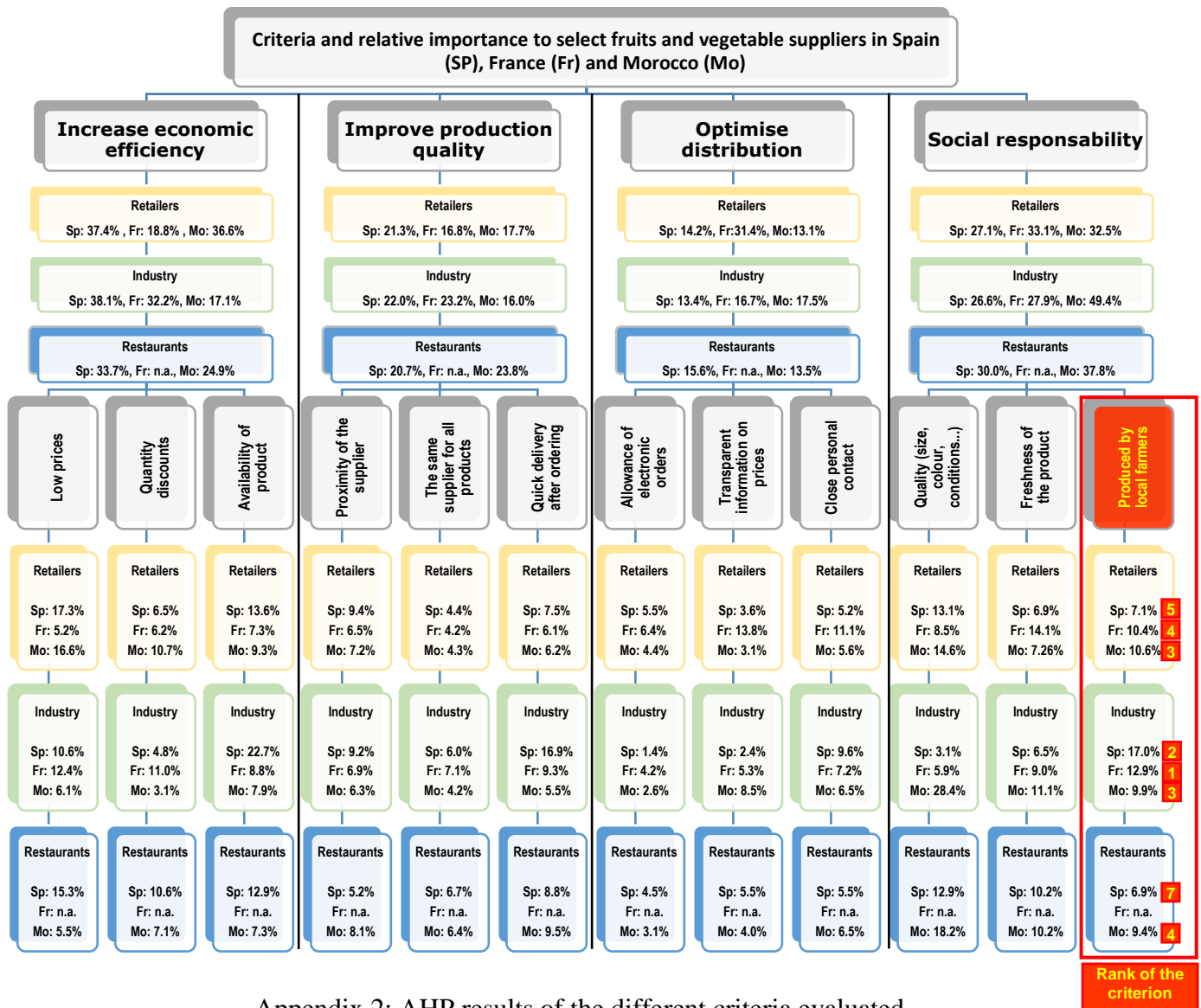
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## 9. Appendices

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Appendix 1: products included in the analysis



Appendix 2: AHP results of the different criteria evaluated