

# Chapter 21

## Consumer Purchase Preference for the Perception of Quality of Perishable Products in a Smart City

**Iván Alonso Rebollar-Xochicale**

*Universidad Autónoma de Querétaro, Mexico*

**Fernando Maldonado-Azpeitia**

*Universidad Autónoma de Querétaro, Mexico*

### **ABSTRACT**

*Freshness, flavor, presentation, and nutritional value of fruits and vegetables deteriorate as time passes. That is why the correct implementation of supply chains is a subject of great interest for companies dedicated to the rotation of food marketing. Consumers play a particularly important role: the interaction between the retailer and the consumer determines the waste of food along the supply chain. The consumer's choice behavior and the perception of what is acceptable (or not) affect the management of the offer in the different points of sale dedicated to this line of business, as well as the aesthetic standards to be applied when distributing the products. This chapter explores consumer purchase preference for the perception of perishable products in a smart city.*

### **INTRODUCTION**

Natural and desirable properties of fruits and vegetables are at their best just after harvesting; in the same way, it can be said that prepared foods have the same aspects mentioned just after finishing their preparation. These values decrease as time goes until that food products lose them entirely. It can be said that the quality is 100% when the load can be sold without losses at the current market price (Osvald and Stirn, 2007). The difficulty in preserving the nutritional characteristics of fresh foods during transportation presents a direct problem for distributors and food traders where the perishability of the

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product requires that it be handled in ways not necessarily conducive to the traditional view of profitable distribution activities. Highly perishable products play an essential role in the process of operational distribution, particularly in the planning task of supply chains. Supply chains are a topic of great interest for companies dedicated to the marketing of food, where an effort is required in the coordination of the actors, activities, and resources to meet the requirements of customers. Food Supply Chains (FSC), are integrated by networks of organizations that work together in different processes and activities to deliver products or services to the market and meet the demands of customers (Christopher, 2011), always caring the quality. The main problems encountered in the operation of the FSC are: 1) demand forecasting, 2) production planning, 3) inventory management and 4) transportation. Several factors affect the management of FSC, such as the management of information, the territory, the forms of organization and the types of the configuration according to how the demand is met.

The waste of food has been identified as a problem with different facets and levels in the food sector (AschemannWitzel, Hooge, Amani, Bech-Larsen, and Oostindjer, 2015) with an impact on aspects such as environmental, social and economic (Alexander, Brown, Arneth, Finnigan, Moran, Rounsevell, 2017). Especially in the economic sphere, in our country, micro and small businesses (MiPYMES) represent a significant source of employment and economic development for many Mexicans, according to official data provided by INEGI, there are 4.2 million commercial units in our country. Of all these companies, 99.8% are considered Micro, Small and Medium Enterprises (SMEs), they contribute 42% of the Gross Domestic Product (GDP) and currently generate 78% of employment in the country, according to information analyzed in the National Survey on Productivity and Competitiveness of Micro, Small and Medium Enterprises, (ENAPROCE) (ENAPROCE, 2015). The highest amount in the segment of microenterprises was registered in groceries and retail foods with 44.9% participation in economic units, occupying a critical place in the economy of the country since they present the characteristic of generating a lot of employment.

On the other hand, consumers play a particularly important role in the cause of food waste in industrialized countries, since around 40% of food waste is related to consumer households (FAO, 2013). Also, consumer behavior affects food wasted in homes (Stuart, 2009); and the interaction between the retailer and the consumer determines the waste of food along the supply chain (AschemannWitzel, Jensen, Jensen, and Kulikovskaja, 2017). An ordinary panorama in our country: stores offer a diversity of products and, in doing so, they influence how consumers are accustomed to seeing certain foods and picturing that the products are in “optimal” conditions to be consumed. There is also the possibility that changes in the FSC can also change the perception of the consumer. The consumer’s choice behavior and the understanding of what is acceptable —or not— affect the management of the offer in different points of sale or business dedicated to this line, as well as the aesthetic standards to be applied when distributing the products, either by wholesale orders or home services. This is a reason to

1. Investigate the perception of the consumer regarding the quality of the food and what aspects are decisive at the time of purchase; and
2. Design strategies for MiPYME to standardize their FSC to maintain high standards of quality and aesthetics towards the consumer.

The present research focuses on obtaining and studying data to know the importance for consumers of the quality of the food products they consume, their confidence level of purchase in the different points of sale and what aspects they consider essential at the moment of shopping.

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