

Chapter 6

The Use of Digital Technologies for Traceability: An Analysis of Consumer and Firm Perceptions

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ABSTRACT

Digital transformation (DT) affects companies' competitiveness mainly in terms of innovation, efficiency, and cost reduction and affects global value chains in specialization, geographic scope, governance, and upgrading. In food, digital tools can improve competitive advantage by supporting companies in ensuring food quality and safety. However, many companies still struggle to respond adequately to DT challenges by adopting new technology concepts as a trend and not a real company imperative, misallocating internal resources and capabilities around technology, and expecting good results. There are no studies in the literature that consider both the adoption of digital technologies and consumer perception in the olive oil sector at the same time. This study has two purposes. The first is to analyse the use of digital technologies by companies in the olive oil sector, and the second is to understand consumer perceptions of the use of digital technologies in traceability.

DOI: 10.4018/978-1-6684-8351-0.ch006

1. INTRODUCTION

The Mediterranean area is the leading producer of olive oil, where Italy and Spain account for almost all world exports (60% Spain and 20% Italy) (Ismea, 2021). Italian production covers on average 15% of world production, and even on the import side, the largest customer in Italy, followed by the United States (US). World demand for olive oil grew slowly - averaging 1% annually - but steadily until 2012. From then on, world consumption also stabilized below the 3 million tons threshold until 2018, when it returned steadily above that threshold. For Italy, production for the 2020/21 marketing year stood at 255,000 tons, a 30% reduction from the previous year (Ismea, 2021). Due to the COVID-19 pandemic, average prices in 2020 fell sharply compared to 2019. However, there is a positive sign for exports to the US, Germany, and France. At the national level, olive oil represents a key product on the market supply-side and demand-side. The oil supply chain consists of several actors and different production phases. In the agricultural phase, olive companies are involved in the production of olives. In the industrial phase, oil processing and extraction companies are involved. Finally, the canning, packaging, and sales companies close the production chain. The Italian supply chain is characterized by a highly developed agricultural sector with high potential found in the suitable territory and the presence of certified products and traced supply chains. The main weaknesses of the olive sector are the small size of the companies and the lack of innovation. The processing phase (mills) sees more focus on investment in research and development. The Italian companies is also characterized by a strong propensity to export, justified by the large size of the operators holding large market shares (MIPAF, 2016). The Italian olive supply chain is therefore poorly organized the activities that make up the agricultural and primary processing phase of the supply chain are fragmented. Large and multinational companies dominate the secondary processing companies and the sales phase (Carlucci et al., 2014). Olive oil represents a key product to which the consumer contributes and increasingly pushes companies to produce quality products (Ismea, 2021). Quality is a strategic tool to compete in the oil market. The consumer is greatly influenced by the range of products on the market, which often offers very wide expectations. Considering extra virgin olive oil (EVOO oil), consumers are greatly influenced by the characteristics of the product and the information they have access to. Examples of this are the information on compositional characteristics (on the label or communicated by the producer), the presence/absence of compounds depending on nutritional requirements, specificity of processing, and raw material characteristics. All this should be communicated correctly to the consumer, and digital technologies are an efficient and effective method of transparent communication.

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