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PDO cheese labels: the relationship between price and the degrees of traditionality, quality, sustainability, naturalness, and sensory attributes

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Labeling is a crucial means of communication that provides information affecting consumers' purchasing decisions [1], [2]. In addition to product specifications, it could provide further information on traditionality, sustainability, naturalness, sensory, and other quality dimensions [3]. There is scarce information in the literature about the elements suppliers (producers, manufacturers, and retailers) utilize on the packaging to set protected designation of origin (PDO) cheese products apart from those of their rivals (non-PDO cheeses). This study aimed to explore the elements they used and to assess the impact of the labeling on product prices and its effectiveness in product differentiation in the Italian market, considering three types of cheese: hard cheese (Parmigiano Reggiano PDO and Grana Padano PDO), fresh soft cheese (Robiola di Roccaverano PDO and robiola type), and string cheese (Caciocavallo Silano PDO and caciocavallo type).

A content analysis tool was developed in order to analyze and score the labels of cheese products. The tool comprised the dimensions and subdimensions of traditionality, quality, sustainability, naturalness, sensory, and nutrition. Data was obtained through market surveys conducted from September to November 2022 at various distribution channels (supermarkets, discounts, open-air markets, and cheese specialty stores) in Emilia-Romagna Region (hard cheese category), Piemonte Region (fresh soft cheese category), and Apulia Region (string cheese category), Italy. In total, 420 labels of cheese products were used in the analysis.

The results presented insights on the key label attributes across dimensions and their subdimensions. Traditionality and quality are principal dimensions in cheese labelling, suggesting a focus on these dimensions for marketing cheese products in the Italian market [3], [4]. Because Parmigiano Reggiano PDO is well-known both domestically and internationally, there are a high variety of products and highly developed labels on the market. The PDO label has high value in the hard and soft cheese categories. Storytelling using animal pictures is crucial for fresh soft cheese but not a differentiation strategy. String cheese has only a few dimensions listed on the labels, but specific cow breed information could increase their value. Quality attributes like cheese maturation period, cow breed specification, premium/reserve, and mountain product can

enhance the value of hard cheese products [5], [6]. The sensory dimension, particularly texture indications, could enhance hard cheese value, while offering degustation suggestions could be a plus for fresh soft cheese. The sustainability dimension in the cheese products was less evident, but organic and animal welfare certifications could add value to the products [7], [8]. There were only a few, but the packaging was gradually becoming more recyclable and biodegradable. Naturalness of cheese products, such as naturally lactose-free, free of preservatives, and claimed natural products, is also important [9]–[12].

The proposed content analysis tool could help managers and practitioners benchmark products and compare them to competitors. Tradition and quality are crucial for staying competitive, with PDO certification adding value. Nevertheless, only PDO certification is not enough, as Caciocavallo Silano PDO requires additional elements like cow breed specification, highlighting the complexity of consumer requirements regarding multiple issues beyond just PDO certification.

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