TOWARDS MORE SUSTAINABLE MEAT PRODUCTS: A CO-CREATION APPROACH WITH CONSUMERS

Marina Domenici[1,2]*, Lapo Pierguidi[1], Sara Spinelli[1], Caterina Dinnella[1] and Erminio Monteleone[1]

[1] Department of Agriculture, Food, Environment and Forestry (DAGRI), University of Florence, Italy
[2]Unicoop Firenze, Italy
*Corresponding author email: marina.domenici@unifi.it

I. INTRODUCTION

Co-creation is a model of open innovation that has generated significant interest as it involves consumers in all stages of New Product Development (NPD). By tapping into the knowledge provided by customers, companies can better assess and meet their needs and reduce the risk of product failure [1]. This study focused on applying co-creation in the meat sector to develop new and sustainable options which meet expectations of consumers with a reduced meat consumption (e.g. flexitarian).

II. MATERIALS AND METHODS

The co-creation approach involved six phases. Phase 1: consumers were selected based on their attitude towards innovativeness and meat consumption habits (n= 40; 50% omnivorous, 50% flexitarian). They participated in an in-depth interview session that utilized the Repertory Grid Method, free association techniques and open questions, to explore important dimensions related to the need for innovative meat products. The data were analyzed using a semiotic approach [2], resulting in the identification of ten Theme Cards (TC) representing opportunities for NPD [3] (Figure 1).

Figure 1. Example of a Theme Card

Phase 2: in-depth interviews were conducted with company staff involved in product development (marketing, sales, quality, research, and development). The staff sorted the theme cards based on priority and feasibility and discussed methods for innovation. The Quality Function Deployment approach [4] was

used to select the most promising ideas. Phase 3: a combined semiotic analysis of the interviews from both phases 1 and 2 resulted in the translation of the TC into six innovative product concepts, which describe the main characteristics of the innovative products (Figure 2).

A new, highly sustainable red meat product that is already cut for easy use in creating delicious and healthy ethnic dishes, of which ingredients and recipes are provided, to inspire your culinary imagination and save you time when you go shopping

Figure 2. Example of concept

Phase 4: an online specifically developed questionnaire was completed by a panel of three hundred thirteen consumers and used to refine the six concepts. Individual differences in consumer ratings were explored using a Principal Component Analysis (PCA). Next, a cluster analysis was performed on consumer coordinates for the first two PCA components.
Phase 5: Based on the results of the previous phase, the six concepts were merged into three to appeal to the largest number of consumers and twelve ready-to-cook prototype combinations of meat and vegetables were developed. Phase 6: an online questionnaire was used to assess the expected liking of consumers for each prototype, including the recipes. A total of one hundred twenty-nine consumers participated in this phase.

III. RESULTS AND DISCUSSION

The online questionnaire (phase 4) showed that all evaluated concepts aroused a good level of interest among consumers except for a concept linked to barbecue preparation. Cluster analysis allowed us to segment consumers into three clusters characterized by different needs hereafter named: 1) “Time savers”, consumers interested in traditional and ready-to-cook products 2) “Ethnic lovers”, consumers more oriented towards innovative and ethnic tastes 3) “Barbeque dislikers”, consumers interested in all the concepts except the “barbecue”.
The online questionnaire on expected liking (phase 6) revealed that consumers preferred prototypes made from beef and pork with fast cooking times and ethnic or traditional ingredients, paired with fresh vegetables and carbohydrates, in order to provide a complete meal. Six high-liked prototypes were chosen for the next phases, involving optimizing sensory properties and conducting consumer tests.

IV. CONCLUSION

By utilizing this methodology, prototypes were developed to cater consumers’ evolving needs. The key factors that garnered interest in new products were environmental sustainability, utilization of ethnic recipes, and a reduction in cooking time. This study offers a systematic framework for the application of a co-creation approach in new product development.

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