

Relevant Results of Fish Consumer Benefits and Food Safety

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Abstract

The paper is focused upon the assessment of current consumer behavior as empirical arguments for designing and implementation of fish feeding and processing innovative biotechnologies which highly meet the exigencies of food safety and security. Recent studies on food consumer behavior are observing the rising awareness of food safety and the reinforcement of the preoccupation about the consequences of healthy diet in terms of prevention and cure as characteristics of life quality. The implications of these changes urge the reconsideration of communication strategy upon food chain in terms of completeness, correctness and continuity of consumer information.

Keywords: innovative biotechnology, consumer awareness, fish market behavior, food safety, food sovereignty

JEL Code: I12; L66 ; M31; Q18; Q22; Q28

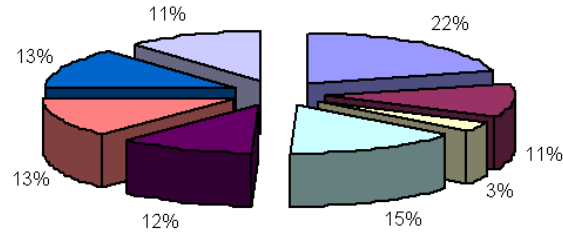
1. Introduction

Our research is based upon the adaptation of the conceptual model [12] "Agro-food innovation capacity assessment" designed for a previous validated FP6 grant. One of the conclusions of the project was the necessity of effort coordination [9] on the food chain actors on the sequence of aligning to consumer behavior studies [2] on traditional consumer growing health concerns.

In order to meet these exigencies, the current research project is focusing upon designing innovative biotechnologies aligned to current tendencies of traditional fish consumer, based upon the following sequentialisation: fish consumer behavior tendencies-biotechnology design and implementation-organizational food chain reconfiguration - dissemination and feed back. The analysis of the results are useful not only to fulfill the main objective of the project- innovative biotechnology -but the designing the data base of knowledge exploring and exploiting on fish chain level ; fish farms, processing, consumers, local and regional distribution. The results can be used by policy makers, which rising responsibility as a task for territorial administration, in order to reconfigure the institutional regime of audit process on current fish market and further certification and validation of new products and monitor the standards of consumption [7] on food safety and security. The paper observe the specific objectives of the first phase of the research project which is the analysis and interpretation of market investigation upon current traditional fish consumer behavior in order to anticipate the tendencies on the matter and to predict the feasibility [9] of the innovative biotechnology implementation.

2. Data analysis

Analyzing the survey results (668 representative sample; $p=95\%$, $e=3,8\%$;) we observe that 658 of 668 (98,94%). The responses on preferred species prove that few are consuming only carp 3%, and 11-22% prefers the rest of cyprinids.



■ Carp (cyprinids); ■ Novac (cyprinids- *Aristichthys nobilis*); □ Singer (cyprinids *Hypophthalmichthys molitrix*); □ Gold fish (cyprinids); ■ Trout; ■ Luce; ■ Zander; □ Other species

Figure. 1 Fish species consumption preferences

We observe the reduced preference 11-13% of species with low fatty acids (Omega3), inferior to cyprinids, which prove an informed consumer on main nutritional values of fish. As frequency of consumption, we observe: weekly over 50% in quantity of 1-3kg, and 56% preferring cyprinids.

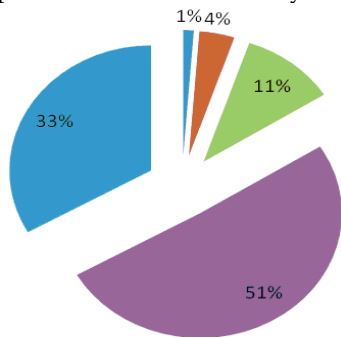


Figure 2. Consumer frequency

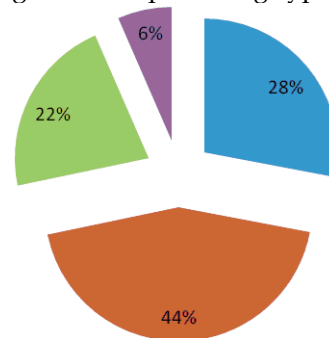


Figure 3. Fresh and freeze quantity on one acquisition

We also observe that the organoleptics characteristics are appreciated from which we mention freshness and validity term, on percentage 98% and 64,3 respectively.

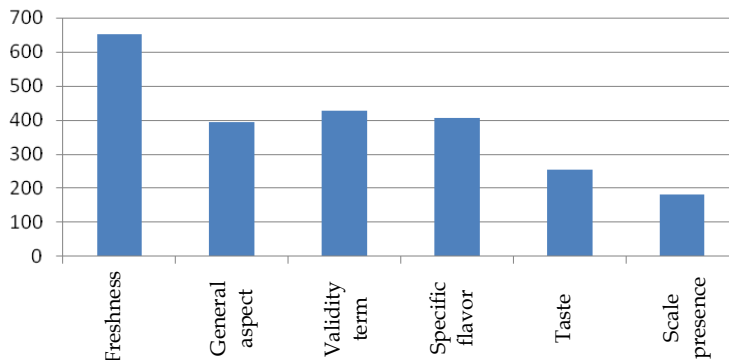


Figure 4. Main charactics of quality on fish product

The diversity, quantity and frequency of acquisition-consumption allow us to affirm that fish can be the main support of food sovereignty [13] on studied area. This change on consumption basket structure through fish increasing percentage will contribute both to health improvement and reducing dependence for agro food import products. The results also implies the necessity of policy makers focusing upon fish farms sustainable development in terms of regional valorization of products and implementing the innovative biotechnologies in order to increase the fatty acids in fish feeding, with high benefits for human consumers health. Food sovereignty must be considered one of the most important concerns of political decedents mainly in current economic context, already facing in the last decade the loosing role for Romania loosing as supplier of external markets. Concerning the main acquisition motivation, the respondents are considering very important and important quality/price indicator, 54% and 35% respectively, which keep price as critical factor (48% very important and 28% important).

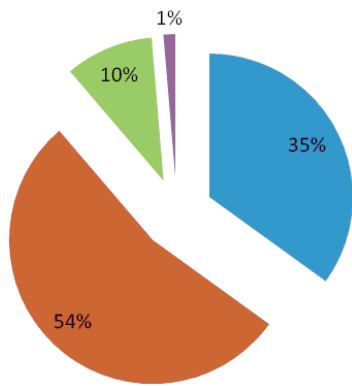


Figure 5. Quality/price factor

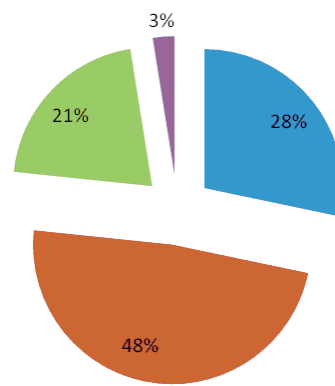


Figure 6. Price

Concerning merchandising, we observe that the traditional fish consumer consider it important and very important in percentage of 39% and 41% respectively.

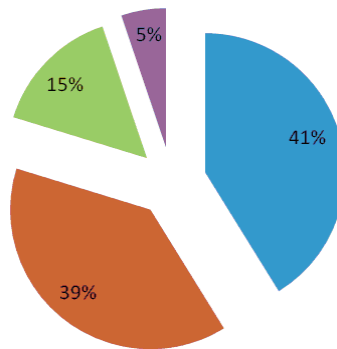


Figure 7. Merchandising

About location of acquisition we observe the order of preference: fish market; supermarket and grocery.

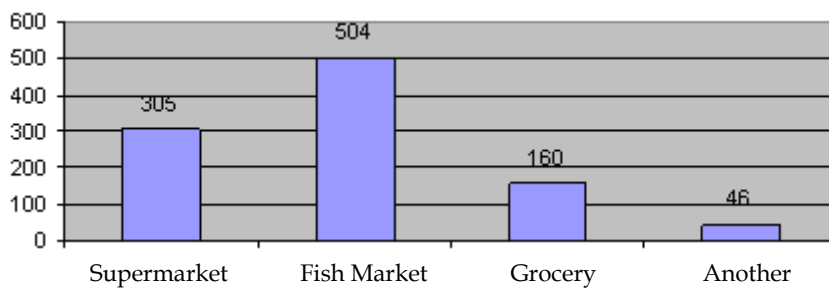


Figure 9. Location of acquisition

As location for tradition consumer we observe a preference of 75% for fish market.

Analyzing data from attributes preferences we see the following decreasing distribution: freshness, taste and origin of the fish and fish products.

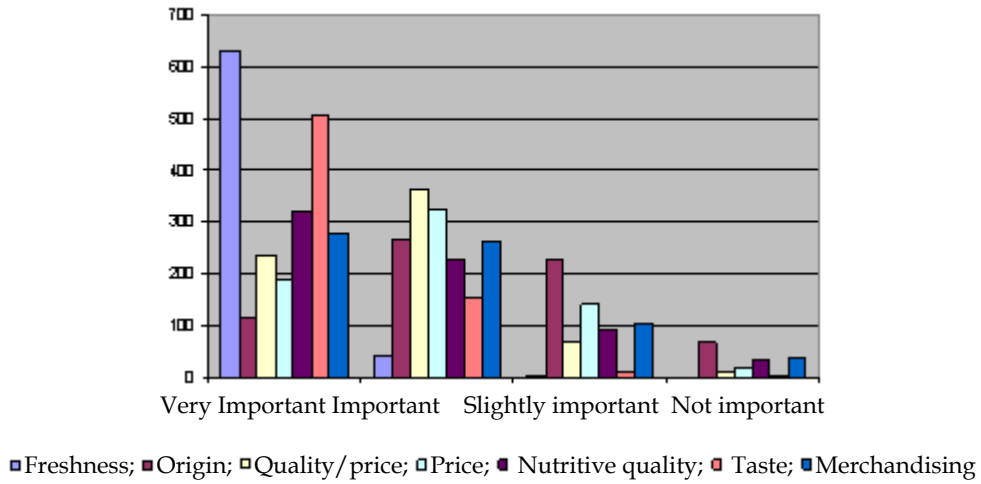


Figure 9. Attributes distribution in respondents preferences

As prioritization of influence factors upon acquisition decision for fish we observe the following distribution: taste 57%; price 45%, origin 36%, advertising 35% and composition 34%.

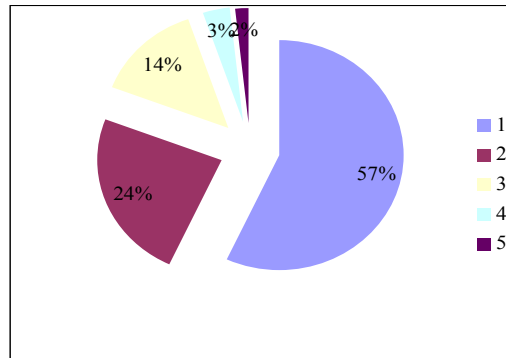


Figure 10. Taste

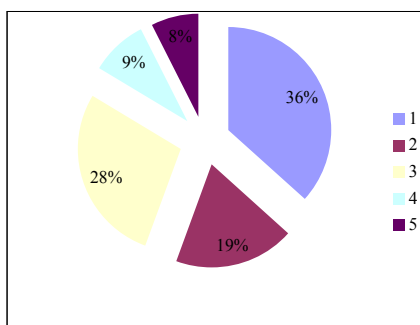


Figure 11. Origin

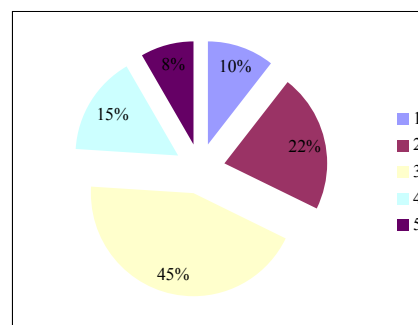


Figure 12. Price

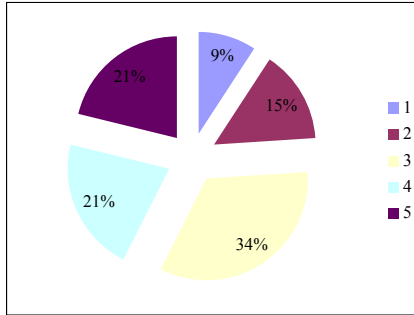


Figure 13. Composition

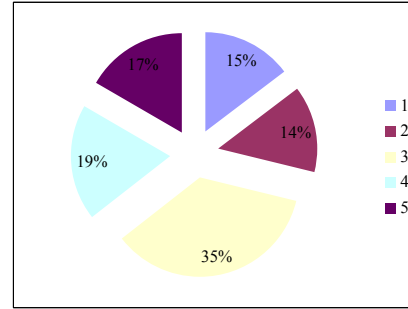


Figure 14. Advertising

As acquisition motivation the respondent's orientation follows the further order of preferences: taste, equilibrated menu, diet, specialist suggestion.

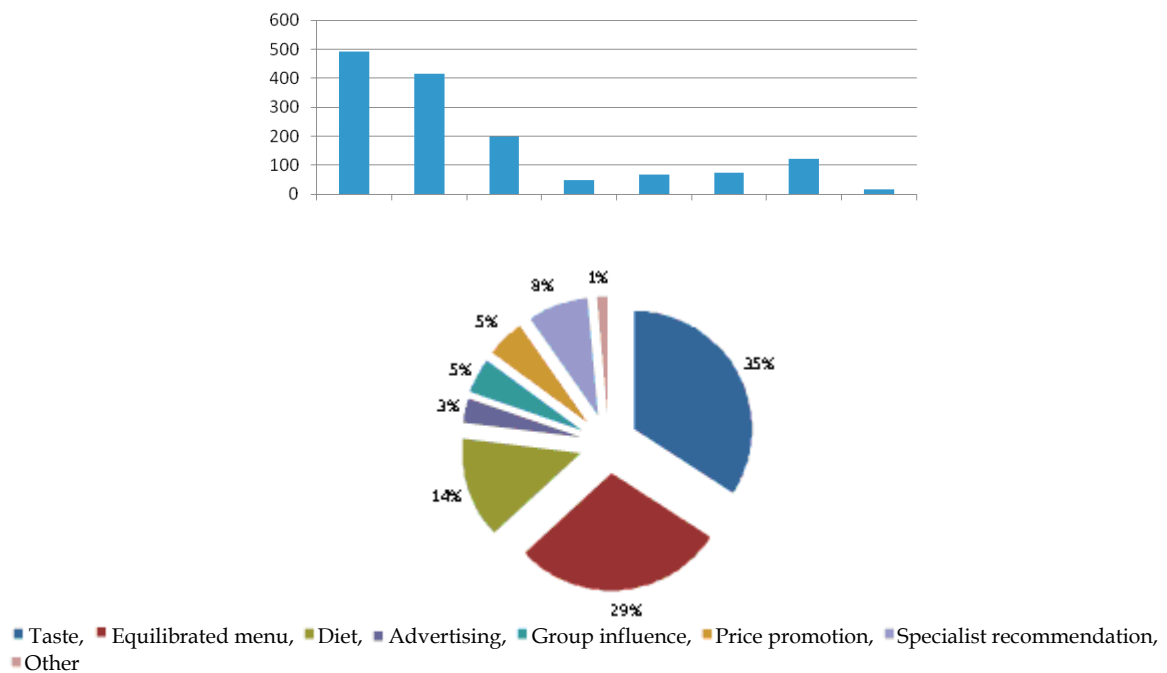


Figure 15. Acquisition motivation

The results reveal the rising awareness of consumers [8,9] that equilibrium of the menu diet and specialist opinion upon diet represents the main three motives of equilibrated food behavior in order to preserve or improvement of health. These arguments allow us to conclude that fish and fish products as results of innovative biotechnologies will contribute to rising percentage of it in consumer preferences.

As demographic considerations [3] of the sample we observe an cvasi equilibrated distribution (35% M/ 65% F), and age structure as follows (fig 16) we observe an increasing percentage of 16-35 groups, which demonstrate that we note sufficient premises to rise the acceptability of improvement fish products after the implementation of the biotechnology, together with the benefits on long term healthy nutrition over the next generation.

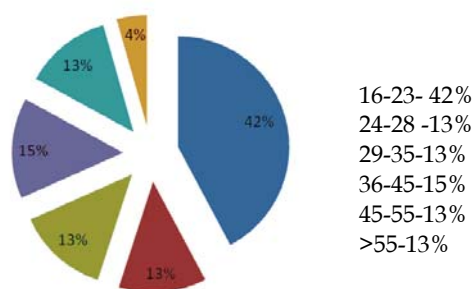


Figure 16. Consumer distribution by age

The income distribution of the sample (45% average income and 31% over average and more together with 25% no income) and the above quality price factor considered very important, allow us to conclude the rising awareness of the majority of consumers about the prevalence of healthy nutrition between and above other potential deterrent factor. Considering the natural factors, the research expertise on the field and farming infrastructure capacity, the increasing quality and diversification of fish offer, will increase the degree of fulfillment the exigencies of an educated public on fish market.

2. Conclusions

Interpretation and valorization of our results will insure not only the necessary empiric analysis for designing the innovative biotechnology as project main objective, but also will improve the knowledge data base on agro food behavior, which further exploitation on benefit of institutional territorial network of decision will increase the opportunity of higher fulfillment of food above and beyond food safety and security. Adopting the arguments of Slow Food [13] vision focused on the concept of food sovereignty, we insure the necessary integration of the dynamic consumption behavior exigencies, through the fish market chain of expertise and responsibilities in order to prevail the territorial community interest. The communication strategy must observe the mutation from past short term interests of the consumer, in which price remain discriminated factor, through the quality/ price current sample preference, to anticipated consumer awareness propensity of shadow price of health costs due to unhealthy diet. The policy makers must carefully balance the fiscal modeling strategy upon agro food chain, being aware about sustainable development objectives, moving from short term interest groups influence, to healthy consumer community interest in long term. Upon above consideration we consider useful to design a territorial communication strategy for agro food network, through an institutional mechanism of dissemination of the results which will reconsider the role of academic and research expertise in optimal valorization of the results.

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