

Fear of Genetically Modified Food and the Role of Knowledge for Consumer Behavior: The New Noumenic Approach

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The theme of Genetically modified organisms (GMOs) in the agri-food system continue to be a topic of controversy and debate all over the world. Continued opposition to them is affectively based, with several studies documenting a robust link between GMO and fear: for instance, people's general neophobia (anxiety toward new events or things) was correlated with their concerns and negativity regarding novel food technologies. Opposition to other forms of new technology has its roots in fear and, accordingly, fear and general distress are highly inter-correlated.

So, this case is able to be considered from a fear point of view, where knowledge can play a fundamental role in food purchasing decisions. It can be analyzed through the new Noumenic approach for consumer behavior [1]: as a matter of fact it was trying to assess genetically modified food impact on consumer's preferences, considering the noumenic approach through KFB (knowledge-fear-behaviour) model. GM foods is an important affair for European modern consumers and, on this concept, an investigation on a sample size survey was conducted in Italy.

Genetically modified material sounds like a science fiction territory, but in fact, much of what we bite on a regular basis is a genetically modified organism. Precisely, these are some of most common genetically modified foods listed. They are corn, soy, yellow crookneck squash and zucchini, alfalfa, canola, sugar beets.

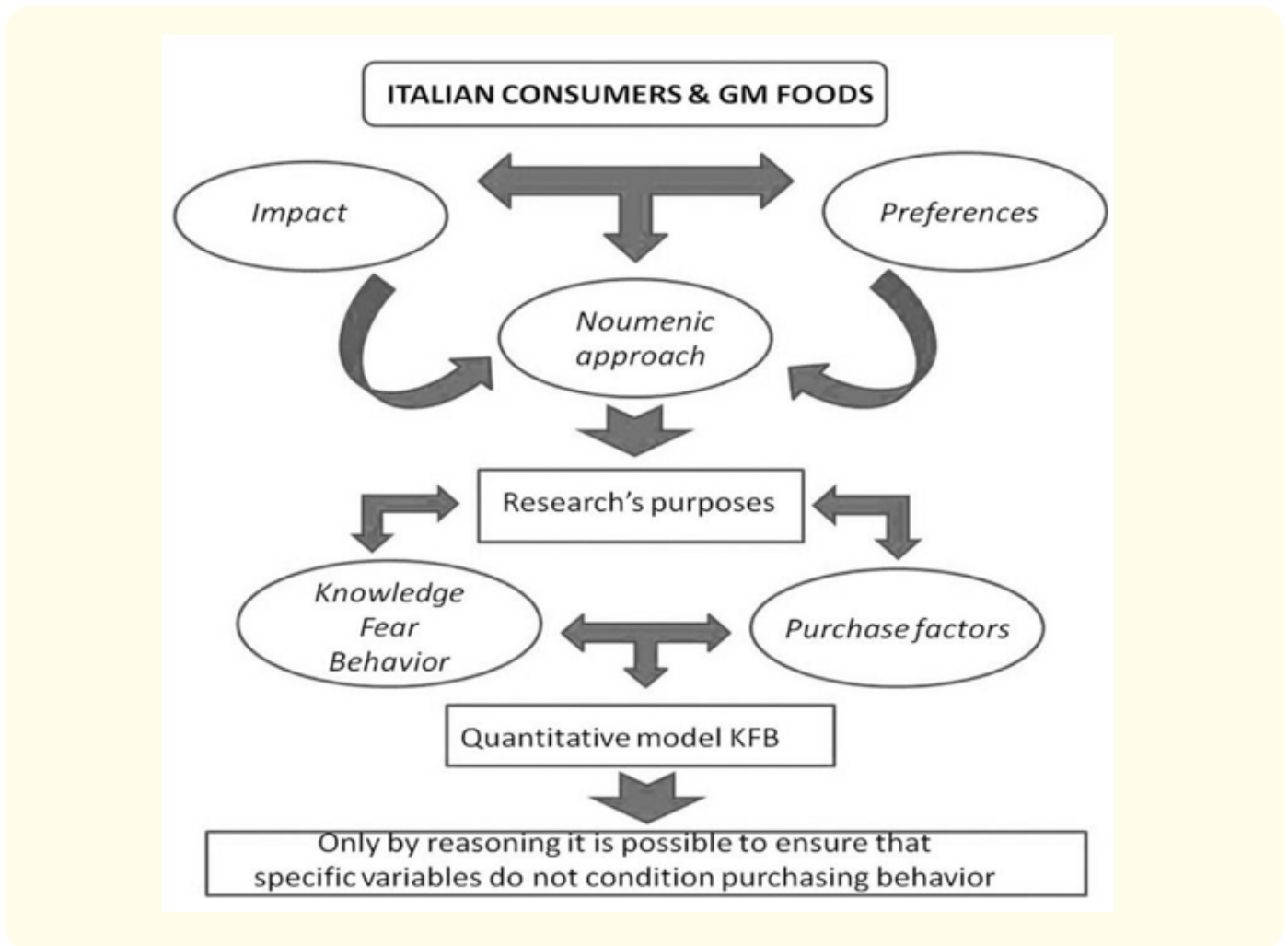
The GM foods or genetically engineer foods or bioengineered foods, according to the World Health Organization, derive from Genetically modified organisms, that can be defined as organisms (i.e. plants, animals or microorganisms) in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination.

The GMOs have been accessed for commercial gain since the 1990s. However, consumer awareness about genetically modified organisms has not increased at the same rate as the approval of GM crops. The consumers from worldwide are displaying defined understanding, wrong idea, and even unfamiliar with GM food products. Many of them received information from the mediums like media, internet, and other news sources.

The noumenic approach mainly contains two aims which are listed as the following ones: 1) a significant model in order to distribute origins of behaviors regarding consumers' genetic modified food preferences; 2) only by reasoning it is possible to ensure that specific variables do not condition purchasing behavior.

As we discussed, the theme of genetically modified organisms is very important for modern consumers, especially when they access novel foods. Future genetic modified organisms are probably to contain plants with improved fighting across plant disease or dryness, crops with increased nutrient levels, improved species with better growth characteristics. In the new approach the researchers have attempted to assess the effect of genetically modified foods on the consumers' preferences, considering a new perception of ours (beyond the previously vision), that is a Noumenic approach. Practically, GM foods cannot be perceived in a tangible way (because they are substantially equivalent to conventional products); they can be understood only through reasoning and, therefore, knowledge. Knowledge could be the variable that dampens the effect of fear and consequent behaviour.

They also conducted an investigation on a sample size survey. The analysis was carried out in a characteristic sample of almost one thousand Italian families, selected based on a functional relationship to the objectives of the work. So, the aims of the study were: firstly, investigating consumers' preferences regarding genetically modified food consumption and developing a quantitative model to formalize the origins of behavior regarding consumers' preferences toward genetically modified food consumption; secondly, detecting the drivers of their purchase, underlining that only by reasoning it is possible to ensure that specific variable do not condition purchasing behavior.



Based on data analysis, the most important element in this study is knowledge, which is the degree of consumer awareness when making purchases. Therefore, although GM foods may have essential implications, they seem to have a negative effect on consumer perception, specifically because of the lack of consumer knowledge about GM food consumption. The reasons may include a low degree of correct diffusion of information about GM foods, absence of education on the matter, emotional considerations and fears.

Because most people lack knowledge about GMOs, the common attitude is likely to be aversion. This behaviour poses the larger issue of general aversion to biotechnology and novel foods due to unfamiliarity. Linked to gap of knowledge, psychological bias comes into play, derived from the perceived distance of GM from 'natural' foods (familiar), and, because in general the more things are unfamiliar, the more they are perceived as risky, avoidance and fear are the consequences. As a matter of fact, it is possible to see that, often, consumers buy considering price, brand and perceived quality rather than GM products. Therefore, a strong information strategy could be important to the change trend.

Information should act as a preparatory stage to help people stop fearing GMOs by lessening their sensitivity to the unfamiliarity or strangeness of GMOs. Considering GMOs using a noumenic approach, we conclude that enabling people to acquire an adequate amount of information could empower them to consciously choose among different food options without fear.

Moreover, it is possible to highlight that the use of the chosen quantitative method has produced significant results: as well as a different representation model for evaluation of knowledge and fear in consumer behaviour based on a noumenic approach (because GM foods cannot be perceived in a tangible way). This method also made it possible to cluster behavioural variables to determine the fear of consumers toward GM food consumption without correct information and, formerly, binding reflections on the focal features of individuals in the sample. Obviously, the approach can be considered also a starting point for future researches [2-7].

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