



Consumer Innovativeness in Food Industry: From Literature Review Some Indications for Business Practices

Dr. M.S. Altamash¹, Dr S.B.Thorat², N. B. Bembade³

Assistant Professor^{1,3}, Director²

Department of Management

SSBES ITM College Nanded

msaltamash@yahoo.com¹, suryakant_thorat@yahoo.com², bembde.nagesh@gmail.com³

Abstract

Objectives. In order to foreshadow the forthcoming and significant advances in the food area, this article traces the evolution of consumers' behaviors across time via an examination of the relevant literature, although in broad strokes. The ultimate goal is to shed light on the most important tendencies that drive today's customer decisions in the food industry. Methodology. The basis of exploratory research is a an empirical survey to quantify consumer innovativeness, notably in the food area, is due to the objective difficulty of identifying a consensual definition of innovation.

Implications in the real world. Studies have been conducted to better understand the new approach of consumers to the food offer, which is helpful for the companies in the definition of product innovation politics, in light of the profound changes intervened in the life system of consumers on the one hand, and the succeeding each other of events that have profoundly conditioned the agro-food sector on the other.

Keywords; Consumer behavior, agro-food innovations, and creative thinking

Introduction

Several studies over the past few decades have attempted to link various individual characteristics with the acceptance of new products. These include socioeconomic status (Hirunyawipada, Paswan, 2006; Im et al., 2007), consumers' inherent propensity toward innovation (Cotte & Wood, 2004), innovators' ability to exert influence over their chosen field (Goldsmith & Hofacker, 1991), leaders' ability to influence public opinion (Summers, 1971; Ruvio & Shoham, 2007 Backstrom et al. (2004) and Huotilainen et al. (2006) both found that the social representation of new items was a significant predictor in the behavior of adoption of new products in the food context.

As a result, there is growing curiosity in customers' creative habits, with particular emphasis on the fast-evolving agro-food industry.

In fact, today's technologies (everything from nano to smart), so-called apps, and big data are the primary drivers of innovation that ride between businesses and consumers, providing solutions to pressing issues like sustainability, waste reduction, traceability, and food safety.

Internet of Food (or Food Tech) is a burgeoning industry that has the support (and development) of major players, major international investors, and thousands of startups from all over the world because it affects the largest

economic activity in the world (just that related to agro-food).

1. In the present research, then, the evolution of consumer's behaviour is traced, though with broad strokes, in food sphere through an analysis of literature, with the aim of tracing the consumer innovativeness related to the sector (Venkatraman, 1991; Goldsmith, Hofacker, 1991; Roehrich, 2004; Dobre et al., 2009; Banterle et al., 2011), in anticipation of the more and more imminent and relevant innovations in food field (among which it is quoted, for example, precision agriculture, innovations and evolutions in the world of hydroponic, 3d printers for food, hand molecular sensors which show the content of a food, new models and platforms of e-commerce in food, new communication systems, promotion, improvement of products, territories or supply chain, smart labels for the trackability of products or indication of their content, applications to reduce the wastes in every passage of the supply chain, systems of cognitive cooking, smart kitchen), highlighting so the principal trends that determine the choices of the modern consumer in food sphere.

2. The Agro-food Sector in the Actual Scenario

2.1 General Profiles through Some Sector Data

The modern agro-food system's evolution, as well as the growing awareness of the importance of consumptions dynamics in dictating the rhythms of the system's development and in tracing its developmental lines, are the reasons for the resurgence of interest in the phenomenon of "consumption" within the realm of economics. That is to say, consumption as a phenomena now looks more able to affect (and be affected by) the actions of economic system actors (Costa et al., 2004).

Competition among businesses has intensified as a result of a combination of factors, including the relatively stationary growth rate of food consumption in affluent economies and the increasing accessibility of markets. At the same time, it becomes apparent how consumers in developed countries have a wide range of requirements, driving businesses to develop innovative goods and spawning a flurry of activity within their respective commodity markets (Banterle et al., 2011).

Given these factors, it is becoming increasingly important to have access to reading-keys of contemporary consumption dynamics that are calibrated to capture potential reflections on the structural, strategical, and organizational arrangement of companies' systems, taking into account the nuances of food consumption that give the current economic moment significant social significance.

As a matter of fact, the food product reflects the social and cultural values of consumers more than any other, and its essential, and inalienable for human life, function, as well as the intimate link which is established between man and nature just through food, makes it a unique product whose consumption affects not only the economic sphere but also the nutritional, hedonic, social, and symbolic ones.

Statistical evidence suggests that we are living in a "fullness phase" in which the majority of people's nutritional requirements are met, even if only on average, and where excess food is being produced relative to demand, leading to widespread cases of overeating and food waste.

Data analysis shows that 2014 was "year zero" for Italy's agro-food industry, which is the second largest manufacturing sector in the country (turnover of 132 billions, more than 58 thousand enterprises, 385 thousand direct person responsibility engaged in the agro production). In reality, after a downward trend of many years, Italians' food consumption has leveled off (-0.1%) as of 2014. A good indicator for agricultural output (+0.6%) and exports (+3.1%), but at a slower pace.

Positive results for the first time since the start of the crisis were recorded in 2015, with increase in consumption (+0.3%), output (+1.1%), and exports (+5.5%). However, the assessment of the industry's future is affected by a number of crucial aspects.

The pace of growth in exports is slower than in the past, though. +3.1 %, after years of +5.8 %, +7 %, and +10 %. However, its velocity is still 1.5 percentage points faster than the national average. One pattern that contributes to 2014's total charge of around 27 billion Euros. Exports' relative importance to total food sales increased by over half in a decade, from 14% in 2004 to 20% in 2014. However, Spain (22%), France (28%), and most notably Germany (32%) all remain well ahead of Italy.

The European Union (+3.6% in 2014) is the most interested market for Italian food exports. Outside of Europe, China has resumed growth (+5,3%), while Russia has seen +3,9% growth despite embargo impacts and the Pil's return to streamlining the country's economy, both of which portend a more pronounced slowdown in the long term.

The "maximum weights" of our exports show that Germany is holding steady (+0.5%), the USA is doing extremely well (+6.5%), and the rest of the world is doing okay (+0,5%).

Despite their reputation for adulteration and Italian-sounding products (which globally removes to our sector about 60 billion euros annually), the United States is the third largest export market for Italian "food and drink" (and the largest for wine).

Then, the demand for Italian products is increasing, despite the economic downturn. The industry is represented by the innermost ring of the filiera. Manufacturing as a whole has been more resilient during the recession than other sectors because of anticyclic structural capacities and ongoing investments in both processes and finished goods that have protected profit margins and kept customers up-to-date. This has resulted in a positive "fall out" for businesses upstream and downstream.

2.16 The Food Consumption Model and the Agro-Food System

The Agro-food System is the sum of the processes inside a country at a given point in time that help to meet the nutritional needs of its people. Thus, the "agro-food economy" requires that food consumption be viewed in conjunction with the other factors that make up the same system.

The use of the agro-food concept necessitates internationalizing the consumption dimension, which must be examined in its interrelationships with the other components of the system, as opposed to the concept of agribusiness, whose purpose is to describe and quantify the effects of insertion of agriculture in the sphere of developed economies.

To sum up, this means that the relationship between production and consumption must be viewed as a system in which both producers and consumers are cogs in the wheel, each contributing to the creation of consumer goods and behavioral and lifestyle models. Because of this, studying major shifts in consumer behavior requires thinking about how businesses have evolved as a whole, with the understanding that production and consumption are intertwined and that the cause-and-effect relationship is not always straightforward (as is evident from the fact that changes in one area can have repercussions in another).

To get beyond the surface-level analysis of what is consumed and get to the heart of the question, one might look to the concept of the Model of Food Consumption as a possible "socio-economical" answer. This model attempts to shine a light on the factors that have determined the recent evolution and the potential future directions of food consumption. Since the food consumption model "is considered as a social fact" (Malassis, Padilla, 1986) and must be understood as a reflex of social conditions of production and consumption, it "refers to the way men organize themselves to consume...., to their food practices, to nature and quantity of consumed foods."

*Besides the level of technology, the production capacity of agriculture and agroindustry, the structure of relations between industry and distribution, and the relative forms of organization define the social conditions of production, the relations of production and among the social classes, the allocation and evolution of incomes, the agro-food politics, the relative level of pr define the social conditions of consumption. Therefore, the agro-food system and societal factors both have a significant role in shaping the food consumption paradigm (Steenkamp *et al.*, 1999).*

From this definition, the analysis object is found to be enriched in comparison to the traditional one, which referred to the "nature and quantity of consumed foods" (anyway not only to expense and quantity but also to nutritional diet), to be extended to other aspects which constitute the main characters of model of food consumption, and that is:

- *The analysisi of socio-economical Unities of consumption (not necessarily coincident with the family) which represent "the way me and my family eat."*

These two considerations have substantial ramifications for any food consumption study. The first of these terms alludes to the shift in emphasis from seeing consumption as a discrete event to viewing it as a multi-stage process. The second concerns the need for an expanded list of examiable explanatory elements: in the realm of flowing societies, the importance of parameters related to food supply capacity (which

- factors that determine the objective conditions of food consumption, as well as cultural factors, which determine the subjective, or "of freedom," sphere of consumer (Padilla, 1992) are of equal importance.
- 2.16 Primary Factors That Have an Impact On People's Food Intake
- In recent decades, the food industry has become the backbone of the productive component of filiere and agro-food

systems in developed countries, holding a central position relative to final consumption or the farm offer, especially due to the largest companies, often international in scope; so that, in addition to increasing its own power towards the farm sector, the industry now assumes a noticeable power of conditioning even towards the consumers, contri By affecting the consumer's information set and the dynamics of prices associated to consumption, such actions may shape the structure of consumers' preferences (Miele & Parisi, 2000; Fotopoulos *et al.*, 2003).

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- Consumption patterns are influenced by a number of factors, all of which can be broken down into two broad categories: economic and cultural factors (Capitanio *et al.*, 2009; Fortuin *et al.*, 2009; Kuhne *et al.*, 2010). These two sets of factors are inextricably intertwined and mutually determine one another.
- In broad terms, we can say that the technical-economical and organizational condition, and especially work, determine the objective conditions of consumption in a high-income society (Gatignon, Robertson, 1991; Rogers, 1995; Steenkamp *et al.*, 1999). In other words, it examines the binds that stem from the production model and set the boundaries of the consumer's freedoms, in whose domain the socio-cultural variables (food behavior, psycho-ensorial sensitivity, rites, habits, myths, symbols, codes) direct the elucidation of possible options (Padilla, 1992). In light of this, "cultural" incentive must be very strong for it to result in changes in consumer behavior that run counter to those brought about by socioeconomic variables (Seyfang, 2006; Dobson e Bell, 2006).
 - The first set of criteria arises from the characteristics of the production infrastructure and the organization of work and family as a unity of ground consumption, and it aids in defining the combination of objective connections to the consumer's activity.
 - Changes in the layout of the workplace are one important class of factors influencing employees' dietary habits.
 - The need for a "lighter" food system, as a result of the increasingly tertiarized nature of the labor;
 - The (partial) deresponsibilization of the role of woman related to diet, and the reallocation of phases of process of food consumption among the members of the family itself (purchase, preparation of foods, etc.);
 - The (partial) deresponsibilization of the role of woman related to diet;
 - The deep renovation of familiar times and the re-collocation of foods role inside the, not only material but also social, life of the family.

The second major group of socioeconomic factors is those that may be traced back to changes in demographic make-up, such as the declining birthrate and subsequent slowing in population growth. The indirect impacts of this trend on food consumption are significant and extend beyond the reduction in the "number of mouths to feed." For instance, the peculiarities of requirements (not just nutritional) of extreme classes of age, as well as the different bend to innovation and, more generally, different life styles (Baregheh *et al.*, 2009; Naidoo, 2010), have important repercussions on the typologies of consumed products as the population ages.

Third, the combination of socioeconomic variables resulting from urbanization (which is itself strictly related to the organization of productive activities), the proliferation of transportation means, and the growth in the penetration of mass communication means tend to increase the interaction among subjects (not just among consumers, but also between consumers and producers).

The second massive set of factors is the socio-cultural framework, which influences both dietary habits and

shows how the consumer's preferences become apparent within the objective constraints of the buying process. In reality, consumer attitudes are not only influenced by socioeconomic status, but also by one's overarching life philosophy, which is the set of values and principles by which one lives and which can be studied using sociological and psychological methods (Jackson, 2009).

Consumers' attitudes on the phenomena of consumption have evolved through time, moving from a "emulative" phase to a "mass" phase, and finally to a "individualistic" phase. The earliest traces of "emulation" consumerism, characterized by a strong emphasis on display and social status, arise during the economic boom of the 1950s and 1960s (Sabbadin, 1990).

Beginning in the 1960s, as urbanization and tertiarization of society took hold, people of all socioeconomic backgrounds began adopting the consumption habits once reserved for the middle and upper classes. This was facilitated by the emergence of consistent consumer habits among members of the mass market.

Instead, the 1970s come across as a transitional era in which consumerism peaks, founded as it was in the flaunting of "status symbol" products and the noisy accumulation of wealth, and in which the ramifications of the oil crisis are shown by the rise of ecological consciousness.

Particularly significant in the consumption dynamics of the 1980s were social and cultural issues. Once again, consumers' spending habits are shifting in pursuit of self-expression. There seems to be a growing group of consumers who are pulling away from conventional attitudes toward cutting-edge goods. These individuals are shifting where they shop for and how they use products; they are becoming more discerning and self-aware; and they appear to be less

influenced by social norms and peer pressure. With a focus on "excellence" quality (euphoric consumption), "personalization" of consumptions (individuality regarding decisions), and a greater diversity of time, way, place, and goods of consumption, the middle class is splintering and a new bourgeoisie is emerging (Sabbadin, 1990; Censis, 1994).

The economic crisis of the early 1990s hastened the shift towards a new consumption behavior that takes its cue from the paradigm of middle, marked by greater affirmation of personality and at the same time by a more moderate cultural attitude, which manifests itself in a renewed attention to the relationship quality/price, to the selection of purchase places, to the choice of products (Census, 1994). As a result, consumers start to look for more than just the product's visual qualities before making a purchase.

Beginning in the latter part of the 2000s, the "crisis" factor once again influences consumers' spending patterns (1). Consumption becomes frantic, splintering into little bites to keep people going between emails when the main ones provide so little sustenance. The "problems" with food consumption, however, originate in other regions. The crisis has merely added to their burdens. These days, food accounts for less than 20% of a typical family's discretionary spending. Certainly better than what occurs in North European or Anglo-Saxon countries, but still objectively very little. Over the last several decades, food's relatively light weight has helped other expenditure categories. If this is clear within certain bounds, then it should raise some concerns when those bounds are crossed. Up until recently (about 2011), the food industry was in danger of becoming a commodity, acquired for the lowest possible price. However, the quality of the meal is terrible. Contrarily, it is already emphasized that it is a decisive synthesis of cultural, social, artistic, and environmental values for the benefit of people and places.

At least in their minds, Italians today still have deep roots in their culture's history. They like fusion cuisine but don't obsess over it and are health-conscious but don't obsess over calories. Instead, they put a premium on old ways of doing things, regional specialties, good company, delicious food, and leisurely pace. The contemporary consumer, who seems to be characterized by the highest degree of individualization and personalization in everything that he does, demonstrates his decisional subjectivity and independence in a variety of ways. The modern consumer is much more savvy than their forebears, in part because of the rise of the educated middle class and the proliferation of information sources and delivery mechanisms. Consequently, consumers no longer shop out of necessity but rather out of aspiration. The food preferences (and preferences in general) that were once designed to act as signals of social class and status are now revealing themselves as signals of life style, and consumption has become a means by which one can communicate one's very existence: the resources and equipment at one's disposal can be used to consume products that couldn't be more dissimilar from one another, in accordance with the values and priorities of one's referring or belonging group (Steenkamp & Burgess, 2002; Im et

Although studies on increased independence and individuality have helped to further complicate the consumer environment and the individuation of clearly defined and stable tendencies, certain "new" fundamental values have emerged.

Among the most significant, especially in terms of the influence they have on the food industry, are: • The trend toward a greater acceptance of pluralism, whether as a demonstration of the autonomy of individual family members or an embrace of subcultures and, more broadly, different cultures; • The affirmation of a "explorative" and "playing" attitude on the part of consumers, from which stems a greater openness to and desire for variety in food products.

A desire for wholesomeness, open-air living, and unpolluted nature; a search for ways to overcome the material contents of consumption; a "modern" rejection of urban-industrial lifestyle; and a renewed and growing attention to the future, from which stems, for example, greater care of physical and mental health and a growing sensitivity to environmental problems.

These trends have long histories in other countries but are only just beginning to emerge here. In high-income societies, there is still a trend toward value homogenization, though this is less to say that all consumers are converging on the same type of consumption pattern than to say that similar behavior phenomena can be observed in the consumptions of people from any country (albeit with varying degrees of intensity and diffusion).

3. Innovation in Agro-food

Agro-food Quality and Long-Term Sustainability: The Role of Innovation 7.1

The current study focuses on the strengthening connection between innovative phenomena, agro-food, and sustainable development. In fact, there are two lenses through which to examine this connection. Pursuing innovation as an animating factor for sustainability in the agro-food sector serves two purposes: on the one hand, it ensures the sector's own long-term social, economic, and environmental viability; on the other, it ensures that the sector contributes to the long-term preservation of the economic, social, and environmental conditions that ultimately determine human

progress across the board, and not just in the food industry. A growing interest to the complex of activities to start not only with the purpose of orienting company more and more to society, but also to create a company vision strictly linked to a humanitarian, social, or environmental engagement, has been stimulated by the increased sensitivity of consumers to themes of health, environment, or equity, and the relative research of an improvement of wellness and quality of life.

On the one hand, these priorities serve as powerful inspirations for new ideas, and on the other, they have determined the development of an agro-food system that increasingly relies on innovative strategies for production, logistics, and communication that are underpinned by a commitment to responsibility and sustainability.

*Thus, in today's world, the agro-food industry looks to innovation as the primary lever to ensure the sector's (and the overall system's) continued sustainable growth. This is because the ability to acquire competitive advantages, whether as a first mover or as the holder of specific and new skills and knowledges, can be maintained over time through the close relationship between competitiveness and innovation (Knudson *et al.*, 2004).*

Because of its broad applicability, innovation is spreading rapidly in the agro-food sector, whether among businesses (which stand to gain from new opportunities) or consumers (who stand to save money thanks to falling prices and improved access to data on things like food safety, environmental impact, and regional availability).

*Environmentally speaking, the process of greening, initiated by Communitarian Agricultural Politics and maintained by the progressive integration of environmental politics in the development of the farm and food sector, recognizes just in innovation the turnkey to assure in time and space the intactness of natural factors, of environmental and landscape resources. Discussion centers on elements that materialize as true primary products for the agro-food firm and that enrich the significance of their secondary outputs (Detre *et al.*, 2011).*

When viewed from this angle, innovation presents itself as a genuine instrument for ensuring the long-term viability of a business's internal and external processes, as well as its connections to the market, its customers, and society at large. In reality, there are a number of areas outside of the agro-food industry where the innovation notion might be useful.

interpretations. Scientific advancements in the fields of agro-bio-technological (turned, for example, to increase the global food resources by offering to farmers opportunities of protection and improvement of harvest, together with a more efficient use of natural resources), food-related (turned, for example, to improve the diet of the elderly or of people with disabilities), environmental, and logistical and communicative (logistical) fields have resulted in such innovations, which are interesting to the system as a whole. Thus, we may go from GMOs and functional foods to precision agriculture and the spread of cutting-edge information and communication technology across a range of industries to arrive at a revolutionary vision for the sector.

The progressive business adapts to this environment and adjusts its management philosophy to reflect its new social purpose of serving the public good. Production of commodities, delivery of services, and creation of innovations are all geared toward meeting societal and consumer-expressed values, wants, and desires. It's about a shift in mindset, as seen by an increase in initiatives and strategies at a worldwide scale, in which businesses aim to have a positive social impact while also advancing their bottom line.

It's no coincidence that the public's perception of the agro-food industry has been negatively impacted by the recent health crises and food scandals, which have piqued the industry's attention. However, operators in the agro-food supply chain need to evaluate the incentives and requests coming from demand, especially in terms of greater aestheticity either of products or of company strategies, because of the close relationship between food and health, the effect of agricultural activity on the environment, and the familiarity and interdependence of products with the production territory (Briamonte, Hinna, 2008).

Therefore, from an innovative standpoint, the quality of agro-food products must be interpreted in a broader meaning that includes environmental, social, cultural, and territorial factors in addition to the conventionally considered nutritional, sensorial, organoleptic, and hygienic-health factors. Consequently, it follows that the quality concept is to be understood as an amalgam of values, encompassing a wide range of characteristics that are weighted more heavily or less heavily depending on the product category and market niche to which they are being sold (Carbone, 2006). The convergence of these factors results in a resurgence of critical, demanding, and distinctive consumer demand, serving as the primary driver of long-term progress in the food and agriculture industry (Esposti, 2005).

Using this idea as a jumping off point, and taking into account the current trends in food demand, we can pinpoint the following directions of consumer-driven quality demand that are likely to spark creative ferment in the agro-food sector: What we mean when we say "healthy living" is that we endorse a healthy way of life. Living for ease of access

and Up to the advent of "printed" or "3D" food for therapeutic use, there has been something called "sympathetic food production," which describes the methods and technology employed in the food creation process.

Increases in life expectancy, health care costs due to the increased prevalence of diseases caused by poor dietary choices, and the pursuit of higher quality standards have all contributed to a marked shift in consumer demand that is increasingly focused on nutritious options (Banterle, Cavaliere, 2009; Carbone, 2006; Verbeke, 2006).

*Thus, the food industry has begun to embrace experimentation and the use of cutting-edge technologies in order to realize niche products like light, low-calorie, and functional foods, which are currently dominating a rapidly developing market on a global and domestic scale (Bech-Larsen, Scholderer, 2007; Verbeke, 2006; Sir *et al.*, 2008).*

As for the second trend, rising female labor force participation and shifting family dynamics have bolstered a new kind of time-saving demand—specifically, for food that satisfies the consumer's primary needs while also cutting down on the effort required to shop for, prepare, and eat it. This focus has boosted R&D spending in the food business to benefit "convenience" foods, which are defined as those that can significantly shorten the time it takes to shop for, prepare, and eat them.

Thirdly, in recent years, consumption models have been affirmed that share a common denominator in the way of good's choice, which takes into consideration the social and environmental effects of a product's life cycle. These models are distinct from simple utilitarian consumption in that they place value on factors beyond the product's primary function, such as the product's impact on the environment and society. Thus, the focus of agro-food industry innovation is on locating goods and procedures that can simultaneously

3.1 sustainability in terms of the economy, the environment, and society.

Finally, the fourth direction is already undrined due to the aging of the population, which is most noticeable in Europe. In reality, by 2010, almost 17% of the population was 65 or older. By 2060, this share will have risen to 30 percent. Not only the social but also the economic system must adjust to this new reality. The European Union has considered creating an industrial technique for producing meals suited for old or individuals with health issues as part of a communitarian strategy dubbed Performance. It's a program designed to enhance the quality of their lives. The method relies only on 3D printing nutritious foods like meat and vegetables, whose molecular structures would be modified by specialized printers to make them more manageable for those with health issues, who often experience dysphagia and malnutrition.

3.2 7.1 Agro-food System Innovation Obstacles

According to Köhler, "the public's perception is very important for the development of a new technology" (Köhler, Som, 2008). In reality, the influence of a new technology on a population varies depending on a number of factors, including cultural and environmental ones.

Since customer approval is so critical to a product's success, it's no surprise that food safety is a core quality element: health is now just as important as flavor (Roininen *et al.*, 2001). There is strategic importance in gauging the public's opinion on advances in the food industry, since this sentiment may have far-reaching effects on the sector's economic, social, and political climate.

When consumers have the opportunity to delve deeply into various aspects linked to technologies (ex. social and environmental), those related to food health and its connections to human health are always those to play the principal role (Bieb). However, reactions to specific applications can vary from country to country and depend on the traditions which characterize the singular country and on the trust in capacity of public authorities in assuring consumer's protection.

Therefore, it is worth investigating the impact of R&D spending on Italy's agro-food industry. To be competitive on a nearly global market, industries need to improve their efficiency, productivity, and supply chain management, all of which necessitates spending much on R&D.

Research and experimentation are extensively sponsored by public subjects due to the unique characteristics of this industry (small company sizes, competitive regime, political-strategic relevance of food supply).

In Italy, the role of public reserch in favor of the agro-food seems to completely replace in the absence of research in the primar sector and to a weak level of investment in research of food industries that very often own short capacity of adopting innovative strategies, despite the fact that the agro-food sector as a whole has low levels of R&D intensity compared to other industrial sectors. When we consider that agriculture makes use of research generated in other industries, the outlook becomes even more pessimistic.

In agriculture, the service of agricultural development (SSA) is used to disseminate advances. This umbrella term

encompasses a wide range of initiatives (research, training, consulting) aimed at sustaining incomes, employment, and health in rural and peri-urban regions, as well as enhancing the quality and safety of food produced for consumers. Such pursuits have long been recognized as being in the public's best interest.

The majority of the innovations that have recently emerged in the agro-food sector, such as the automation of processes and the activity of results' control, especially in terms of quality, have not originated within the sector itself, but rather have resulted from the application and transformation of results of research led in other spheres.

In the case of Italy's food sector, for example, innovation influences three key areas: production costs (through process and organizational innovation), costs and revenues (via process innovation should the firm expand into new markets), and product differentiation (through innovation).

However, the inventive process is not based just on the amount of R&S a firm produces; rather, it is constructed via the connections a company makes with its external environment (Galende, de la Fuente, 2003). In particular, it's important to highlight the nature of the partnership between the firm and its external environment, in an effort to identify the driving forces behind the organization's success.

This rapid rate of innovation increasingly defines the current food industry, which is because consumers have increasingly varied expectations, including the desire to keep fit and healthy, increase vital forces, spare time, and respect the environment, as well as the traditional physiological/nutritional aspect (driven by hunger alone). Consumers' spending habits are profoundly influenced by both external macro trends, such as shifts in the amount and distribution of income (Mruk, 2007), and internal conditionings.

3.3 However, many personal factors, such as age, family status, gender, education, income, and health, as well as social and cultural factors, such as social roles, belonging groups, religion, environment, origins, and tradition, influence consumer behavior (Gatignon & Robertson 1991; Rogers 1995; Steenkamp & colleagues 1999; Michon & colleagues 2010). This piques the attention of young customers in particular, who make it possible for businesses to expand their offerings (Capitanio *et al.*, 2009). This highlights the need of shifting the focus of research on consumer behavior toward an examination of consumers' propensity for innovation.

3.4 Propensity to Innovation in Consumer Behaviour: La Consumer Innovativeness

As a result of this ongoing "enrichment" process, food products are increasingly conceived of from a product/service perspective, and as such, they represent the derivation of a new food concept that is intended to perform the most evolved and complex use function meal solution, as opposed to the traditional use function of a simple ingredient of one meal component. As a result, the agro-food industry is under increasing pressure to adapt its product offerings to accommodate shifting consumer preferences (Goldsmith, Hofacker, 1991; Grewal *et al.*, 2000; Goldsmith, 2001), particularly as more and more high-tech products flood the market.

In light of these changes, despite the innovations and theoretical advances that have piqued the attention of the general theory of consumer behavior in recent years, the study of food consumption's behavior still serves significant interpretive restrictions (Dagevos, 2005). Both of these can be traced back to the fact that researchers have paid relatively little attention to the study of eating habits associated with the consumption of novel products (Becker, 2004) and have instead favored the use of analysis methodologies with firm roots in the most conventional frameworks of classical economics.

As a result, it is of utmost interest to delve more deeply, especially in the empiric dimension, into the understanding of choice determinings underlying the consumption of such food and the consumption's functions referring to them, as the business of agro-food products with high technological content is still in its infancy.

In reality, the field of marketing has been more interested in the study of customer behavior over the last several decades, spurred on by a flurry of new theoretical formulations. In particular, we are referring to the newly developed theoretical acquisitions, in a disjointed but strongly connected fashion, from the theory of relational marketing with its recalls to continuity improvement and personalization of exchange relationships, from the experiencing approach with the particular interest attributed to the emotive and affective component (Pine, Gilmore, 2000; Addis, Holbrook, 2001), and, last but not least, from aethical marketing and iMarketing.

A more integrated application and next to evolutions of consuming reality tend to be supplied by such changes, even if they have not established a unitarian theoretical body and offered a common analytical model. Even in their differences, the remembered viewpoints suggest at least two key advances as theoretical progresseso, having mastered some of the theoretical concerns of conventional methods and in particular of the cognitive school.

The first concerns the processual dimension, within which consumers' actions must be framed. From this vantage point, the transaction ceases to be a time-bound occurrence and instead takes on the characteristics of a complex

activity, one that is defined in terms of discrete intervals of time and is characterized by a multiplicity of acts, subjects, and activated connections.

The second axis of study is the multidimensionality of the purchasing and consuming processes, which was derived in part from the experience method. According to this view, the consumer's act of purchasing something is a "holistic" experience that involves many different facets of the consumer's individual and social-cultural identity. The focus shifts from an examination of individual purchases and the decision-making processes that underlie their selections to one of the consumers' lived experiences.

factor in the overall milieu in which consumer culture manifests. A large body of research has been conducted on consumer behavior from this premise, with an emphasis on product categories that are typically characterized by a more emotive content and for a subjective and intimate involvement, with only recent attention paid to categories of more "utilitarianistic" products.

Despite remaining in many cases an exclusive stronghold of some study spheres referring specifically to farm economy, in general, goes more and more to the contamination of categories of declared analysis in the circle of new theories of social studies, this last statistic allows us to reclaim that territory.

The demand for food, while still directly related to the satisfaction of primary needs (diet and subsistence), is now understood to reflect a wider range of wants and requirements. As a result, the use function is expanding and contracting in response to new contents that refer more directly to factors related to people's social lives, relationships, values, emotions, and sensations (Dagevos, 2005). It has been emphasized that the price and functional quality, which together comprise a collection of factors that are still relevant in the formulation of the process of consuming food, do not completely exhaust their interpretive efficiency. In actuality, they only apply to certain processes, such as making a purchase or deciding between several options, and ignore investigating how the product is used and how the user responds to it (Dagevos, 2005).

When it comes to food, consumption becomes a complex phenomenon in which cognitive-rational motivations are translated and reinterpreted on the basis of more articulated social and emotional dynamics, so the individuation itself of variables which condition its formation is not limited to a single activity but rather encompasses all activities and directly affects not only what and where one buys but also when and how one uses what one buys.

4. Then, the inclination toward innovation as a central theme of consumer behavior (consumer innovativeness) has entered the picture. This theme first became prominent in the first half of the 1990s, whether in academic research, the promotion of new products, or as a valid interpretive key for understanding the phenomenon of early adoption. Some of the most advanced theoretical constructions have even referred to contingent and situational determinants (Midgley & Bowling, 1978), but most of the prior research has focused on the individuation of personality characteristics of initiators, consumers with a greater innovative bent who are the first to adopt the new products available in the distribution. To ascertain the extent to which consumers are predisposed to bend toward innovation, theorists individuate an abstract collection of personality traits that may be operationalized. Consumers' propensity for novel behavior can be explained by their possessing the following five personal traits/attributes of cognitive/behavioral character: openness to new experiences, adaptability, curiosity, self-respect, and interest in emotion research (Goldsmith, 1989). Some studies (Foxall, 1995) have highlighted, in particular, how the consumer's behavior, with regard to the innovative variable, can change in relation to the types of products and the types of distributive forms, adopted for the launch of the new product, and this has led to a linguistic muddle in the theoretical and empirical literature on consumers' propensity toward innovation.

When faced with such a plethora of options, consumers are less likely to make informed purchases since they are not just free but also bewildered and overwhelmed. Consumers' complex attitudes and reactions to innovation, as well as their preliminary subjectivity in defining innovations themselves, explain why it is challenging to read studies about their behavior towards innovation in food products.

5. Conclusions

New consumption behaviors in comparison to traditional habits mark a decisive turning-point in the approach of consumers to services and products of food offer, stimulated by the deep changes intervened in the life and work system of consumers, social-economical changes deriving from an increase in pro-capite income, and the succeeding each other of various events that have made the history of the agro-food in recent years. It is hard to approach the system without considering the increased focus on dietetic-healthy features, the individualization of food patterns, and

the deconstructurization of meals, to name just a few of the characteristics that by then characterize indisputably the demand for food items. The emphasis on individualization of life and dietary choices is a reaction to the widespread promotion of "homologation" in consumer behavior.

This may be seen in the growing interest in food quality and safety, the popularity of "bio" culture, and the resurgence of a focus on rural values, to name just a few social-demographic, cultural, and geographical trends.

Therefore, innovation is seen as the essential lever to ensure a sustainable growth of the agro-food industry and its referring system in the current evolutionary process that is intriguing the agro-food sector. So, for instance, on the one hand, there is a growing interest, at both the scientific and institutional and productive levels, in products like, for instance, functional foods that aim to optimize physical wellness and reduce the risk of diseases, while on the other hand, a debate has begun about the possible solutions coming in a more pointed fashion from the modern biotechnologies, by nanotechnology, and by the use of 3D printing. The fulfilment of societal ideals, customer requirements, and wants is a clear indicator of the performance of the products and services produced and provided. This is evident by the proliferation, on a global scale, of actions and plans implemented by companies to supply a contribution to a healthy cause, and that see involved the various functions of the company, from production to distribution and marketing to the various forms in which the company carries out its role of territorial agent.

The contemporary world is preoccupied with issues like health care, environmental protection, and product quality, all of which may be seen as drivers for the initiation of new processes in the agro-food industries. Strong ties to tradition and locality, on the one hand, or hi-tech food with novel products achieved via genetical modifications of bio/nanotechnologies, on the other, are the development pathways that are distinguishing the agro-food business.

Stood out from the study of literature (national and international) developed in the present work is an analysis of consumer behavior on the food market, which reveals how it is involved, on the one hand, by the physiological need (and then by the mere sensation of appetite) and by their own habits of use, and on the other hand, by the impact of specific marketing (sometimes agro-food) factors, such as the conditions of the social, cultural, and economic environment. In this regard, customers look to food for revitalization, health, attractiveness, and an increase in hedonic value (Gutowska, Ozimek, 2005).

The modern consumer of food products results, thus, to be characterized by:

- choice of producers who use different technologies;
- different levels of education and experiences with other cultures, among which national and local food;
- progressive diversification in the sphere of expectations towards food;
- growing interest to food which favours health, beauty, physical condition;
- growing interest to rules of the so called "rational nutrition" and awareness to information sources about food;
- progressive increase of specific segments of consumers who distinguish themselves on the ground of new criteria;
- variations in income's levels which contribute to increase the exigencies and a higher
- acceptability of innovative solutions;
- greater awareness of consumers inside a legal protection of their interests.

In consideration of all these factors, as the behaviours of consumers and other market operators are significantly changed (Wiitek-Kubiak, Balcerowicz, 2009), the companies compete to satisfy their preferences through innovation. In conditions of necessity of quick reactions for exigencies dictated by a dynamic market, the knowledge of attitudes and behaviours of consumers towards innovation can contribute mainly to the growth of innovativity of the subjects themselves.

In conclusion, the literature analysis developed in the present work takes us to affirm that, though the principal innovations in being are oriented above all on the elderly persons, it is on young consumers that it is necessary to point because, independently from the underlined elements, they are generally open to newness, even if the speed

of acceptance of innovations is different according to the country of birth. In fact, they impose high requirements to food producers and are aware consumers, because they know what to expect from a new product.

The young, then, accept with greater easiness the innovative products, and that is why such segment should be taken under consideration by the marketing specialists in their promotion activities. But to be able to reach young consumers, it is important to know their attitude and behaviours, and this will allow to reach them with specific (and suitable) marketing activities. Consequently, such activities will have effect on success or failure of the launch of a new innovative product on the food market.

- 1) Changes in customer behavior, but especially the need to incorporate such changes into the innovation process, will form the trend that is altering the mindset of those responsible for making goods.
- 2) Starting with the developed analysis in this work, which does not claim to be exhaustive, researchers could investigate what influences young consumers' decisions when selecting an innovative agro-food product (edonism, convenience, brand, etc.).

Directly, via e-commerce acts, the Internet has altered the consumer purchasing process, and indirectly, it has made possible bits of information that were before very uncommon and costly.

The enabling environment, attitudes toward technology, purchasing culture, and Internet experience levels are all contributors to this shift. The enabling factors include the availability of Internet access, the ability to communicate in English, the cheap cost of a web connection, and even the most basic familiarity with its usage.

The way one thinks about technological advancement is a further need.

The drive to use a computer, one's degree of money, and one's optimistic or pessimistic outlook on technology are the three primary elements that impact such an attitude.

The acceptance or disapproval of long-distance transactions may also be influenced by the buyer culture. When you shop online, you give up that kind of direct, tangible control over what you're buying and who you're buying it from.

There's also the question of how the purchase fits into the buyer's social life; if making a purchase is going to take up too much of the buyer's precious spare time, they're more likely to stick to tried-and-true methods.

Those with less experience shopping online are more likely to make impulsive purchases, whereas those with more expertise are more likely to conduct thorough, well-researched transactions.

The availability of information, however, is the most noticeable effect of the Internet. In reality, consumers are increasingly basing their purchases on the usefulness and accessibility of publicly accessible data. Internet shopping has three distinct degrees of impact in relation to conventional shopping:

Modification of informative collection in the traditional process

Creation of integrated purchase processes

3) Purchase processes wholly online developed.

- 1) The availability of information about goods, brands, and manufacturers made possible by widespread Internet access allows consumers to make more creative choices when making purchases. The data may originate from either company-sponsored official channels or from individual or collective sources.

To further facilitate the buyer and lessen the challenges that a totally virtual procedure might offer, the Internet also intervenes in online purchasing processes by combining online and physical phases. When making a more involved transaction, or one in which having a tangible object is essential, customers may choose more conventional ways of payment, which may help them overcome language, cultural, and geographical hurdles. Consumers are given responsibility for co-planning in numerous types of integrated processes.

Thirdly, if the buyer has a reasonable mindset and follows the established protocols, the whole transaction may take place online.

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