Consumer behavior in choice of minimally processed vegetables and implications for marketing strategies

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A B S T R A C T

The purpose of this work is to stimulate the debate on the economic aspects of minimally processed fresh-cut production, assessing the purchase intentions of consumers of fresh-cut products. In order to gain this purpose and compare with the literature, results of previous on-field research, that involved consumers of fresh-cut lamb's lettuce (Valerianella Locusta Laterr), are presented and discussed. This work deals with the information collected as marketing and economic analysis on food products object of the research project "Novel strategies meeting the needs of the fresh-cut vegetable sector − STAY-FRESH". Intentions to purchase fresh-cut lamb's lettuce from environmental sustainable farms, simulating a fresh-cut product with an Eco-label, are investigated. Several studies referred to the approach that sets out different types of motives that affect attitude and willingness to pay for minimally processed products. The managerial implications make it possible to assess how much the different types of motives influence the attitude and affect the choices and the behavior of the consumers. To complete, a cost analysis of the fresh cut lamb's lettuce product is proposed. These results are proposed waiting for the Eco-labeling Board (European Union Eco-labeling Board) decisions on the feasibility of an Eco-label for food products.

1. Introduction

The success of new food technologies is dependent on consumers' responses (Chen, Anders, & An, 2013). Literature on the acceptability of new food technologies has mainly focused on those that, in actual fact or in the imagination of consumers, substantially modify the characteristics of a particular food, such as GMOs, nanotechnologies etc. It has also shown that consumers: 1) are favorable to food innovations which enhance the quality and nutritional value of food; 2) are critical of technologies which, in their view, require an excessive modification of the original product and could be dangerous to human health and the environment; 3) can be influenced by information, and 4) there are differences between consumers of different countries (Coppola & Verneau, 2014; Cox & Evans, 2008; De Barcellos et al., 2010; Evans, Kermarrec, Sable, & Cox, 2010; Frewer et al., 2011; Matin et al., 2012; Nielsen et al., 2009; Siegrist, 2008; Stampfli, Siegrist, & Kastenholz, 2010; Verbeke, Pérez-Cueto, Barcellos, Krystallis, & Grunert, 2010).

This particular aspect and the progressive economic globalization requires firms to develop innovative solutions in order to remain competitive in the long term. For this reason today's companies are forced to differentiate themselves by creating extra value in the minds of the consumers by generating salient benefits, which extend beyond product attributes and functional benefits. Differentiation is a very common approach for presenting higher value-added to customers, and services are a strong differentiator. Staring with this consideration, every company is engaged in differentiation through innovation. In today's competitive and global business environment, marketers must work harder than ever before to achieve some degree of differentiation for their products. In order to secure competitiveness they need to know how to efficiently communicate their additional efforts to consumers. In any case, farmers need to take care about adjusting and communicating their production methods in line with customers' concerns, in order to remain credible in the market. Certification and labelling systems belong to the most effective instruments that can induce positive changes in consumer behavior. Empirical research findings, showing that consumers prefer information attached to products and labels, support this conclusion (Koszewska, 2011). Due to an increasing health consciousness and growing interest in

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the role of food for maintaining and improving human well-being and consumer health, that is now characterizing the consumer in actual society (Ballestrazzi, Mason, & Nassivera, 2011; Kher et al.,2013), vegetables are well recognized for their benefits towards healthy living (Bongoni, Steenbekkers, Verkerk, van Boekel, & Dekker, 2013; Cox et al., 1996; Wootton-Beard & Ryan, 2011), thanks to their protective function against diseases. Numerous studies have shown that consumer's needs for convenience are correlated with food choice (Hjelmar, 2011; Grunert, Brunsø, Bredahl, & Bech, 2001; Verlegh & Candel, 1999). Minimally processed vegetables has been developed to meet consumer's needs for "quick" products, and to benefit from vegetable and fruit's healthy image (Ahvenainen, 1996; Pula, Parks, & Ross, 2014; Vidal, Ares, & Giménez, 2013). The term "minimally processing" has been defined in various ways, for example very broadly as "the least possible treatment to achieve a purpose" (Manvell, 1997). An even more precise definition, which situates minimal processing methods within the context of more conventional technologies, describes them as techniques that preserve foods but also retain to a greater extent their nutritional quality and sensory characteristics by reducing the reliance on heat as the main preservative action (Olsen, Menichelli, Sørheim, & Næs, 2012; Raybaudi-Massilia, Calderón-Gabaldón, Mosqueda-Melgar, & Tapia, 2013). Minimal processing can, therefore, be seen in the context of the traditional concern of food processing to extend the shelf life of food (Nicoli, 2012). Consumers have also placed a greater premium on foods which retain their natural nutritional and sensory properties. Minimal processing techniques are fitted to meet this challenge of replacing traditional methods of preservation whilst retaining nutritional and sensory quality. This assortment of mainly vegetables and some fruits is becoming more and more popular (Nassivera & Sillani, 2015). In Italy, until the end of 2012, purchases of minimally processed vegetables showed a steady upward trend, with the complicity of the high service content and ease of use that have boosted consumption by 380% in ten years despite prices higher than the traditional fresh products. Most research about the food category of minimally processed vegetables and packaged fruits focuses on microbiological quality, safety, processing and packaging issues (Allende, McEvoy, Luo, Artés, & Wang, 2006; Alves de Azeredo et al., 2011).

Consumer research related to consumer perception or purchasing determinants towards minimally processed vegetables and packaged fruits has not analyzed strongly some strategic aspects regarding the possibility to apply an Eco-label for this kind of products, to differentiate the production for environmental sustainability. This aspect of insight in consumer decision-making towards this rapidly growing assortment of minimally processed vegetables and fruits forms the rationale of a previous research (Nassivera & Sillani, 2015) and the economic analysis proposed in this work. It is evident that consumers are constantly being subjected to a multiplicity of messages, that often seem contradictory, especially when they relate to the quality of food and to issues linked to its safety. Most of the studies, aimed at exploring this topic of the sources of information that affect the purchase choices of consumers, are focused primarily on nutritional and health information (Frewer & Miles, 2003; Kher et al., 2013), the origin of the product, its method of processing and the environmental impact of the production. The demand for eco-sustainable food products and related services is continually growing (Ballestrazzi et al., 2011; Panzone, Wossink, & Southerton, 2013; Vassallo & Saba, 2015). In relation to these changes that affect modern society, it is evident that, for example, if is possible to communicate that a production is also "environmentally sustainable" via Eco-label, the final consumer may be more informed about this product attribute. Labelling is an efficient approach for aggregating information, reducing the time required for information search and hence for reducing the complexity of consumer choices. Some authors have pointed out that environmental sustainability labels are not currently playing a central role in consumers' food choices, and the future of these labels will depend on the extent by which consumers' environmental awareness will translate into buying choices (Grunert, Hieke, & Wills, 2014). In this way the European Union Eco-labelling Board commissioned a feasibility study for establishing reliable criteria covering environmental performance during the whole life cycle of food products (Couturier & Thaimai, 2013; DG environment EU, 2011). This will support the opportunity for adopting an EU Eco-label for food and feed products. The fact that environmental issues and concerns are constantly changing (Sartzetakis, 2013; Zepeda, Sirieix, Pizarro, Corderre, & Rodier, 2013) implies that ongoing research into their influence on consumer behavior is essential. In such a context, those companies that adopt strategies based mainly on sustainability, on the environmental value of goods (green marketing) and on the safety value of food products (care of prevention) earn a competitive position in the market. Starting from these premises, the determinants of consumer behavior towards minimally processed vegetables could be specifically separated into "health" and "green" consciousness, gathering in this last group the motivations behind the purchase of environmentally sustainable minimally processed vegetables, underlined and communicated via the potential adoption of an Eco-label. A label that summarize this kind and a wide range of information could alter consumers' purchasing decision (Hansmann, Koellner, & Scholz, 2004; Hoek, Roling, & Holdsworth, 2013). The aim to gather for minimally processed vegetables the links between the determinants, the attitude towards the Eco-labelled product, the intrinsic attributes of perceived quality, the extrinsic attributes of perceived quality and the willingness to pay for minimally processed product with an Eco-label, forms the starting point for marketers of this kind of products.

2. Health and green consciousness as determinants in consumer choice

Health consciousness expresses the readiness to undertake health actions (Becker, Maiman, Kirscht, Haefner, & Drachman, 1977). Health-conscious consumers are motivated to improve and/or maintain their health and quality of life (Hartmann, Siegrist, & van der Horst, 2013). Previous research has identified interest in health as a primary motive for the purchase of organic food (Grankvist & Biel, 2001; Lockie, Lyons, Lawrence, & Mummery, 2002). In addition, health consciousness has been found to predict attitude, intention and purchase of organic foods (Magnusson, Avrola, Hursti Koivisto, Aberg, & Sjoden, 2001, 2003). Although the relationship between health consciousness and attitude has not been uniformly supported in all studies (Tobler, Visschers, & Siegrist, 2011), the effects of the construct, as antecedent of attitude towards a minimally processed Eco-labelled vegetable product, in a sample of consumers in Italy revealed that this "new demand" for healthy products can be satisfied by the minimally processed vegetable products (Nassivera & Sillani, 2015). This kind of information depicts a consumer who accepts new technology applied in food production in order to gain peculiarities of healthy food. Other studies have shown that, for American consumers, health comes before the environment and solidarity (Allen, 2010).

There are different fields of investigation of green motivations and consequent "green attitude". Some authors examine the interface between the natural environment and consumer behavior (Diamantopoulos, Schlegelmilch, Sinkovics, & Bohlen, 2003), others focus on marketing strategies (Menon & Menon, 1997), public initiatives and macro marketing (Kilbourne & Carlson, 2008). Green

marketing also shows close affinities to industrial ecology and environmental sustainability such as extended producers' liability, life-cycle analysis, material use and resource flows, and eco-efficiency. This is therefore a very far-reaching matter that introduces serious implications for business strategy and public policy. Currently it is universally agreed that green marketing is an important tool for sustainable development and for the satisfaction of the various interested parties (Kärnä, Hansen & Juslin 2003). Among environmentally significant activities, the production, trade, and consumption of food products have been identified as crucial contributors to numerous environmental problems (Marques & Almeida, 2013). Several studies have demonstrated that processes involved throughout the entire life cycle of food products, from production to consumption, contribute to emissions of greenhouse gases, farmland erosion, excess sewage, avoidable waste, and loss of species, to name only a few of the negative consequences (Jungbluth, Tietje, & Scholz, 2000). Thus, fostering changes in the food chain, such as changes in production, trade practices, or consumption, are crucial steps in the quest for sustainable development (Ballestrazzi et al., 2011). In this way the extent of consumers' environmentally friendly behaviors can be facilitated or inhibited by acts of marketers. For instance, it is difficult to buy environmentally friendly food products when they are not available at the local market (Nassivera & Sillani, 2015). This leads to the question as to how green products may be defined. In terms of food products, green is often loosely translated to mean support for organically grown food. Despite the relevance of this aspect, other crucial product features affecting sustainability are neglected by this narrow definition. These are, for instance, conservation practice, technology implementation to save water in production chain, reduction of pesticides, origin of the product, and environmental sustainable packaging.

Green food products are defined this way: they are domestically cultivated rather than imported from foreign countries; they are organically rather than conventionally grown; they are seasonal and fresh rather than frozen; they are not wrapped; and they support fair trade (Tanner & Kast, 2003).

Psychological environmental research has typically focused on the role of factors within the individual, such as knowledge, environmental concern, attitudes, norms, and values (Brownlee, Powell, & Hallo, 2013). The detection of a measurement scale evaluating the green motivation as antecedent of the attitude towards minimally processed product with an Eco-label, to investigate the consumer reactivity with this kind of information, showed that this kind of consciousness affects the attitudes towards a minimally processed product with Eco-label and the willingness to pay more for products with these characteristics. The analysis of the measurement scale indices, allow to underline a particular significant interest for Italian consumers in environmental sustainability issues, which characterize the evolution of consumer needs of minimally processed food products (Nassivera & Sillani, 2015).

3. Attitude towards minimally processed food products

According to the Theory of Planned Behaviour (Ajzen, 1991; Ajzen & Fishbein, 1980), attitude has a strong relationships with behavior and behavioral intention in multiple contexts (Choo, Chung, & Pysarchik, 2004; Kalafatis, Pollard, East, & Tsogas, 1999; Shaw & Shiu, 2002; Shaw, Shiu, & Clarke, 2000). Attitude is a learned predisposition to behave in a consistently favourable or unfavourable way with respect to a given object (Schifman & Kanuk, 2007). According to the expectancy-value theory (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 2010), attitude result from the multiplication of beliefs with their evaluations. The multi-component view of attitude assumes that evaluations are influenced by cognition as well as affect (Ajzen, 2001). In the context of organic food purchases, Magnusson et al. (2001, 2003) and Tarkiainen and Sundqvist (2005) find attitude to explain purchase intention. Attitude towards minimally processed Eco-labelled food products was found positively affecting the perception of perceived quality of minimally processed vegetable products (Nassivera & Sillani, 2015).

4. Perceived quality of minimally processed vegetable products

The term quality generated a long-standing debate resumed only recently, culminating in the production of a series of definitions. The remarkable complexity of the subject refers to a multi-dimensional construct based on the consideration of a number of elements required identification of the different levels of the perception of quality (Brucks, Zeithaml, & Naylor, 2000; Garvin, 1987). A significant contribution to the definition of quality was proposed by Steemkamp (1997) with the approach of "Perceived quality": quality is seen as a subjective concept that depends on the perceptions, needs and by objectives of the individual consumer.

Based on this assumption, as is known, the concept of quality is necessarily sub-divided into two groups of factors on which the consumer shall deliver its opinion of value (Steemkamp, 1997):

- Extrinsic attributes: these are the attributes of the product, also called "image variables" (Erickson, Johansson, & Chao, 1984). Examples are represented by the price, the packaging, the physical sales, brand and certifications (Cardello, 1995; Meiselman, Johnson, Reeve, & Crouch, 2000; Tuorila, Cardello, & Lesher, 1994; Verbeke & Viane, 1999).
- Intrinsic attributes: these are the physical attributes of the product and they cannot be modified except by changing the physical characteristics of the product (Bredahl, Grunert, & Fertin, 1998; Hurling & Shepherd, 2003; Issanchou, 1996). They allow the objective measurement of quality and are specific to each product. It therefore seems clear that the intrinsic or extrinsic nature of the product depends on the relationship between physical attributes and the product: if a product changes when you change the attribute, this attribute is considered to be intrinsic, if not changed, then it is considered extrinsic.

The intrinsic attributes related to physical characteristics such as color or the amount of fat contained in meat, may originate mainly in the field of food quality attributes identified by the appearance of the product. Referring specifically to the food, a popular approach in the literature concerning the definition of perceived quality of products is related to two sets of factors, ie those plants which have the same characteristics of intrinsic attributes, and the peripheral ones, which have the same connotations of extrinsic previously proposed. It should be noted that according to this approach there is more emphasis placed on factors such as the organoleptic characteristics and climate characteristics of the production area (Sanzo, Santos, Vázquez, & Álvarez, 2003).

From the operational point of view many other studies have emphasized the need to establish a clear distinction between intrinsic and extrinsic attributes in the measurement of perceived quality. Examples include data from works of agro-food products such as wine (Verdú, Lloréns, & Fuentes, 2004), fruit and vegetables (Sulé, Paquin, & Levy, 2002, 2003; Sulé, Muñoz, & Levy, 2005) and meat (Becker, 2000; Hoffmann, 2000; Glitsch, 2000). It should be pointed out that in this respect, however, the key factor being the time and place where the consumer receives all information on the food product, information from more or less distorted perception of

extrinsic and intrinsic attributes product, which significantly affect the buying process. It is therefore necessary to consider both extrinsic as well as those intrinsic attributes in order to assess the effects on the willing to pay in a multidimensional sense. Starting with these premises, some researches depict a consumer reactivity to attributes related to environmental sustainability, expressed and synthesized by an Eco-label, of organic food products in Belgium and of minimally processed products in Italy (Driessen, Hillebrand, Kok, & Verhallen, 2013; Nassivera & Sillani, 2015).

5. Willingness to pay for minimally processed vegetable products

A large body of research regarding consumers' willingness to pay (WTP) for environmental friendliness and/or quality/safety in food production (Ballestrazzi et al., 2011; Husted, Russo, Meza, & Tilleman, 2014; Nassivera & Sillani, 2015; Rosa & Nassivera, 2013), as well as for non-food products (Laroche, Bergeron, & Barbaro-Forleo, 2001; Sexton & Sexton, 2014; Vlosky, Ozanna, & Fontenot, 1999) or services (Johnston, Schultz, Segerson, Besedin, & Ramachandran, 2013; Tse, 2001) can be found. Price premiums, the excess prices paid over and above the "fair" price that is justified by the "true" value of the product, may be indicators of consumers' demand for that product (Tse, 2001). WTP for Eco-labelled food products can be a good predictor of these food products demand. Consumers are highly fragmented in terms of their level of environmental awareness and willingness to choose higher-priced environmentally oriented products. Laroche et al. (2001) argue that consumer attitudes towards the environment are very good predictors of their WTP more for green products. On the other hand, there is limited information as to how much consumers are willing to "sacrifice" for such products (Uchida, Roheim, Wakamatsu, & Anderson, 2014). Henson (1996) claims that WTP is the theoretically valid measure of the value consumers attach to improvements of food safety. It is true that the validity of WTP results often depends on the measurement method followed. The measurement scale for WTP, when is proposed to evaluate the intention to pay a premium price for minimally processed Eco-labelled vegetable products from companies with high environmental sustainability, showed a positive consumer reactivity (Nassivera & Sillani, 2015).

6. Discussion and some managerial implications

The strong imperative for innovation in the economic importance of the food sector, has led to a body of research. Such research embraces topics such as: research and development (Bougheas, 2004), networks and the supply chain (Drivas & Giannakas, 2006), innovative behaviour (Avermaete, Viaene, Morgan, & Crawford, 2003; Rama & Von Tunzelmann, 2008), product and process innovation (Avermaete et al., 2004), service quality (Rosa & Nassivera, 2013) and technology (Bigliardi & Dormio, 2009). Type of innovation in the food sector, in particular in minimally processed vegetables productions, has been investigated with a particular focus on extension of the product's shelf life, reduction in the processing residues potentially present in the food product, environmental benefits due to a more limited use of natural resources in the product's processing cycle. First of all, a convenience sample of Italian consumers seem to be responsive to the health and environmental aspects of the industrial processing of fresh-cut products, with the same priority between the two values as has been reported in literature for other products in other countries: the joint communication of the two values (health and the environment) for a non-organic food product did not ingenerate confusion in the consumers; on the contrary, it increased

preferences. "Green Motivations" of consumers (in which it is incorporated considerations on environmental sustainability of the minimally processed vegetables products), have a direct and significant influence on the attitudes towards a minimally processed product with Eco-label and the willingness to pay more for products with these characteristics. The analysis allow to underline the significant interest in environmental sustainability issues, which characterize the evolution of consumer needs of minimally processed food products (Nassivera & Sillani, 2015).

Environmental labels, Eco-labels and others, can contribute to promote a "green" consumerism and reduce the environmental impact of the industrial processing of non-organic food products, which constitutes the majority of the impacts produced by the food sector, simply because the presence of these labels could alter the consumers' purchasing decisions (Hansmann et al., 2004).

This explained the necessity to improve marketing strategies in providing better communication and correctly informing the consumer about the peculiarities, which distinguish the productions in their meaning of eco-sustainability. These considerations in this way provide guidelines and suggestions for retailers who are selling minimally processed food products. Besides this, next researches can be helpful for the minimally processed food producers to identify their target consumers. Retailers of this kind of food product can make their marketing strategy accordingly to the reactivity of the consumers not only for aspects related to a healthy product, but also to attributes of environmental sustainability expressed by an Eco-label.

Considering innovation aspects in minimally processed vegetables production, is possible to detect a costs analysis for implementation of environmental sustainable implants. Following some information retrieved in market-leading companies specializing in production of plants for minimally processed products processing, an investment plan that a company should structure for the commissioning of two production lines is simulated. The first implant is characterized by the capacity of 150 kg per hour, a second by the capacity of 600 kg of raw material per hour. These two choices are generally the best solutions on the market of equipment manufacturers and are offered to companies in relation to the production flexibility, derived from product differentiation characterizing the product portfolio. The strategic choices of companies could influence the choices for initial financial investment in start-up of the plant. This kind of analysis focused solely on economic aspects related to the two lines, avoiding to consider all items of indirect cost attributable to the management of the entire agro-industrial complex. In addition to the considerations on the management of the production lines, two particular and widespread technologies used for sanitizing product are considered. Washing through Chlorine and Ozone. The decision to concentrate attention on these two alternatives has been made in relation to the information that is possible to find in the numerous comparisons between the industry and academic research groups. In Table 1 is presented the amount of the initial investment for the two lines

Table 1
Initial investment for two production lines and relative sanitizer.

	Hourly line production[a] (kg/h)			
	150		600	
	Product washing phase		Product washing phase	
	Chlorine	Ozone	Chlorine	Ozone
Line	300.000	300.000	600.000	600.000
Product washing	1.000	50.000	1.000	90.000
Total	301.000	350.000	601.000	690.000

[a] Taking into account the downtime for product changeovers and plastic film change.

Table 2
Production costs directly attributable to a package of minimally processed fresh cut lamb's lettuce, except the raw material (€).

	Costs	Hourly line production[a] (kg/h)			
		150		600	
		Product washing		Product washing	
		Chlorine	Ozone	Chlorine	Ozone
Line	Fixed cost (€/yr)	51.000,000	51.000,000	102.000,000	102.000,000
	Semifixed cost (€/day)	89,327	89,327	89,327	89,327
	Variable cost (€/package)	0.064	0.064	0.023	0.023
Product washing	Fixed cost (€/yr)	403,333	8.500,000	403,333	15.300,000
	Variable cost (€/package)	0.007	0.005	0.006	0.004
Packaging	Variable cost (€/package)	0.057	0.057	0.057	0.057
Total cost	Fixed cost (€/yr)	51.403,333	59.500,000	102.403,333	117.300,000
	Semifixed cost(€/day)	89,327	89,327	89,327	89,327
	Variable cost (€/package)	0.128	0.126	0.085	0.083
Total cost[b] (€/package)		0.158	0.159	0.098	0.097

[a] Taking into account the downtime for product changeovers and plastic film change.
[b] 125 g package; production line works 7 h/day, 6 days/week, 52 weeks a year.

distinguishing the incidence of sanitizing technology implementable in any given dimension of the production line.

The conditions relating to the size of the productive capacity of each line, from the information provided by the companies, consider also the "downtime" necessary for any "change product", as the typical approach to the plant's flexibility management.

As is clear from the first information, the initial investment for the implementation of an element of the line dedicated to wash that uses Ozone has a higher cost, determined precisely by the necessary safety devices in the treatment of the active sanitizer substance.

Table 2 explained all cost items. In this phase of the cost analysis, the cost for the raw material is not considered, since this information is strongly influenced by the dynamics of the market.

The premises for the contextualization of each cost item take into account the following assumptions:

1. For each line is calculated an estimation of the direct costs attributable to machine stoppages, which are necessary for the product change operations and for the washing operations at the end of the day;
2. The production unit considered is constituted by an envelope of 125 g of product;
3. A working capacity of the production line, by simulating its operation distributed in 7 working hours per day, six days a week, 52 weeks per year, was assumed.

As is clear from the direct costs analysis, those attributable to the plant of each line and for each envelope have a modest impact for both washing and sanitizing proposed technologies, both for plants to lower productivity (0.158 € per envelope with washing technology Chlorine-based and € 0.159 per envelope with washing technology Ozone-based, in production lines of 150 kg per hour) and for those characterized by higher productivity (€ 0.098 per envelope with washing technology Chlorine-based and 0.097 € per envelope with washing technology Ozone-based, in production lines of 600 kg per hour).

The two analyzed technologies of sanitization do not affect both the average total cost per unit produced. On the other hand it was possible to identify, as any investment to make a plant such as to offer the market a product "without residual chlorine", that this innovation requires very low increments of cost per unit produced, both for production lines of capacity production of 150 kg per hour, both for production lines of production capacity of 600 kg per hour. The competitive advantage, if dimensioned in an advantage in terms of cost of production, can be found in the scale economies in

the production lines of larger size, but, as in the case of smaller production lines, the implementation of a strategy to generate a competitive advantage through product differentiation, which amplify the attributes of environmental sustainability characterized by lines that use the technology of sanitization Ozone-based, is fundamental.

From such information is possible to suggest how marketing managers of minimally processed food products companies, can take advantage with the potential adoption of an Eco-label, to inform consumers about the distinctive features of the productions in their sense of eco-sustainability.

7. Conclusions

This work of a special issue deals with the information collected as marketing and economic analysis connected to perceived value regarding the food products object of the research project "Novel strategies meeting the needs of the fresh-cut vegetable sector – STAYFRESH". It concerned the marketing aspects, consumer's perceived value and behavioral intention towards Eco-labelled fresh-cut product, and presents the findings in the context of cost analysis for implementation of environmental sustainable implants, which dealt with the STAY-FRESH research project. The findings of the recently completed research at the core of the project is enhanced by contribution on the framework determining the importance of the advantages generated via the adoption on an Eco label for this kind of food products. The considerations on the consumer responsiveness on product's attributes of environmental sustainability and the managerial implication has led to insights into new opportunities for the producers, who can characterize their production in terms of environmental sustainability, using technology of sanitization Ozone-based with low increments of production costs. The findings suggest important managerial implications for new marketing strategies for minimally processed food products, with the opportunity to take advantage of the potential adoption of an Eco-label: industrial technologies improving the health and environmental aspects of minimally-processed food, if adequately communicated, can produce a competitive advantage in terms of consumer preferences.

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