

Credence Attributes, Consumers Trust and Sensory Expectations in Modern Food Market: Is there a Need to Redefine their Role? *

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ABSTRACT

Nowadays, food has reached a great level of differentiation, linked to processes, products, and ethical issues as well (Aprile, et al., 2012; Grunert, 2002). Growing consumers awareness of specific product attributes related to health, origin, environment and ethical concerns is shaping a wider concept of food quality (Feldmann & Hamm, 2015; Grunert, 2005). In this scenario, modern agri-food sector builds a new quality construct by integrating search, experience and credence attributes in an innovative way (Oliver, 1980). In particular, the role of credence characteristics to achieve product differentiation is increasing in importance (Fernqvist & Ekelund, 2014). Following the wider concept of food quality, credence attributes cover different dimensions from health and production methods to environmental and social orientation (Moser, et al., 2011). Since such characteristics cannot be verified, credence attributes require standards or certifications to be communicated and to ensure consumers (Scarpa & Del Giudice, 2004; Meixner & Haas, 2016; Sheldon, 2017). This process led to a more specific and complex system of food public and private standards starting from basic elements as origin, to other credence aspects that are decreasingly linked to the intrinsic attributes of the product (Giampietri, et al., 2016).

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1 Introduction

With increased complexity of credence attributes, a difficulty of understanding has influenced consumer behaviour and food quality perception (Verbeke, 2005). One consequence is that most of food products have become complex 'bundles of credence characteristics certifications' so the amount of information provided by firms or retailers has become very specialized and difficult to process by consumers during food choice (Nuttavuthisit & Thøgersen, 2017). The topic of consumers' choice behaviour in connection with a new food quality construct built mainly on credence attributes needs a renewed attention. Three main issues can be developed, they have influence both on consumers' preferences analysis and on marketing strategies implementation and they can have an impact on policy and future research.

The first issue is related to consumers trust. This aspect is a key element in a food market characterized by a competition and differentiation strategies based on credence attributes (Janssen & Hamm, 2012; Sogn-Grundvåg, et al., 2014). The lack of research on exactly how, and how much, trust influences consumer decision-making and behavior is pointed in recent studies (Aertsens, et al., 2009; Hobbs & Goddard, 2015).

The second issue is connected to the factors that have to be provided to consumers in order to assess food product credence attributes. Consumers may implement their own judgment and perception about such food characteristics using third-party certifications or other sources of information (Lee & Hwang, 2016). Two possibilities could be analysed. One is connected with the credibility of the certifications. The second possibility is represented by a perceived correlation between a credence attribute, such as ethical concern or process characteristics, and other product experience attributes that they can evaluate after consumption. These supporting attributes, such as specific sensory dimensions, could act as a substitute for or complement to credibility of credence futures (Grolleau & Caswell, 2006). Taste is generally described as important signal for consumers and as the most important factor in consumers' choice (Carrillo, et al., 2011; Roininen, et al., 1999). In general, sensory dimensions could be a key element to turn credence attributes in experience attributes to mitigate the role of trust and to improve food products competitiveness.

The last issue to develop is related to the methodological approach to implement in modern consumer behaviour analyses. A large amount of studies has attempted to measure the effects of credence on consumers' choice and liking but the increasing complexity of both food quality and consumer behaviour dimensions require to combine methodologies. To implement useful analysis on modern food consumers, it is strategic to provide a detailed view of the role (and interactions) of sensory and extrinsic product properties on preferences.

The papers in the special issue provide new empirical insights into the topic of consumers' choice behaviour in connection with a new food quality construct, with applications to consumers' personal values, certifications and quality signals, taste and trust. A common theme throughout the papers is that the role of mediators between credence attributes and the consumer's quality judgment in the light of a constantly innovating food sector has to be redefined. In detail, Panico et al. (2018) consider the role of traditional certifications in the case of an innovative case study, the wood-derived products. Fitzsimmons & Cicia (2018) analyze how the willingness to pay for credence attributes can be influenced by personal values of consumers. Then, two cases in misperceptions that can stem from overchoice of quality signals are discussed in Trestini et al. (2018) and in Stranieri et al. (2018). Following, the future trends of quality assurances are shown in Santeramo et al. (2018) and Sogari et al. (2018), respectively: the trust from consumers and sensory characteristics of foods.

2 The role of trust in food consumer behavior: traditional issues, limits and new challenges

Existent literature on trust could be divided in three different research fields. The first one is related to the definition of the concept and its dimensions. The second one is dedicated to the analysis of connection between trust and food risk. The last field is related to the investigation of how trust affects consumer behaviour related to food products.

Many Authors, merging different disciplines like sociology or psychology, have tried to define trust. Despite the apparent self-evidence of the concept, some Authors have identified sixteen different definitions of trust (Kramer & Tyler, 1996), others have defined trust as a belief that a person or organization can accomplish objects because they possess the some values and intentions (Greenberg, 2014). Petts (2008); Renn and Levine (1991) and Hobbs and Goddard (2015) highlight that recent trust literature identifies only five dimensions: competence, objectivity, fairness, consistency and empathy. Using these dimensions, trust is translated into various categories. Relational trust (between oneself and another), calculative trust (based on past behaviour of the other and/or constraints on future behaviour), institutional trust are the most cited categories in the literature (Earle, 2010). On the base of this, many definitions have been implemented. One of this considers trust as "a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behaviours of another" (Nuttavuthisit & Thøgersen, 2017; Rousseau, et al., 1998). As analysed

in the second research field, the role of trust in food risk perception is pivotal. The role of trust is strategic where information is sparse, hard to assess or complex because trust can substitute for full knowledge (Luhmann, 1979). At the consumer level, fear, risk and vulnerability are important economic determinants of response to food safety and of acceptance of food new technologies. Preferences for food products characterized by credence attributes like safety or quality dimensions produced by new technologies are affected by personal experience and more by the presence of reliable third-party information (e.g. the supplier or government). In this scenario, reliable third-party information builds trust and reduces uncertainty (Lang & Hallman, 2005).

Studies in the last research field have underlined how trust is an important aspect of buyer–seller relationships (Ebert, et al., 2006; Giampietri, et al., 2018; Schoorman, et al., 2007). Authors, with different approaches, have analyzed how trust affects market actors' behaviour (Berg, et al., 2005; De Jonge, et al., 2004; De Jonge, et al., 2008a; De Jonge, et al., 2007; De Jonge, et al., 2008b; Dierks & Hanf, 2006; Frewer, et al., 1996; Mazzocchi, et al., 2004). The role of trust in influencing consumer food choice is taking on increasing importance. Gulev (2012) shows a positive association between trust and reliable business practices based on social and environmental sustainability. Starting from the previous considerations, it may be relevant to understand how trust affect consumers' intentions or choice to buy food products characterized by several credence attributes. Empirical studies have shown consumer trust in food and in its credence attributes to be strongly predicted by trust in supply chain actors (Berg, et al., 2005; De Jonge, et al., 2007; Sapp, et al., 2009). Thus, the problem of trust has to be translated in the analysis of consumers' perceptions of the trustworthiness of food system actors. Huge volume of literature on trust, consumers behaviour and decision making focuses on consumers' responsiveness or sensitivity to innovation in food products and processes, new public regulation, new private standards and to food scandals. The results show that trust could be an important dimension of public confidence in food, in food actors and in quality signals such as certifications and brands. However, a lack of studies devoted to analysing on which type of trust policy makers and actors of food sector could act, is still evident.

3 Sensory dimension and credence attribute: a new role for taste

Among the many specifications of credence attributes, healthiness of food products is gaining increasing attention both by public bodies (as shown by the EU policy agenda), and by the final consumer (Fernqvist & Ekelund, 2014). It is also the most valuable from research point of view as healthiness of food represents a benefit for a society in which unhealthy diets represent a serious threat (WHO, 2009). In this case, however, communicating the presence of the attribute is not sufficient to capture consumer's attention, as while shopping for food a number of trade-offs between health and taste are offered (Verbeke, 2006; Visser et al., 2013). As a result, consumers are generally more responsive to hedonic labels compared to health labels (Raghunathan, et al., 2006). Therefore, a possibility to increase the effectiveness of credence features is represented by the possibility of turning the credence attribute into experience or search (Caswell & Mojduszka, 1996).

An important solution to this issue can be provided when the food product can bring precise sensory features together with the claimed attribute (Cavallo, et al., 2017). In this way, consumer can be re-ensured of the healthy features of the food by other reliable information (as taste). Furthermore, in this case, the provided information can also alter the real experience stemming from the product trial (Cavallo & Piqueras-Fiszman, 2017; Piqueras-Fiszman & Spence, 2015). The sensory features, need to be bring with some benefits in order to increase the acceptance from the consumers' side (Roselli, et al., 2018).

A peculiar case, in this sense, can be represented by bitter taste in food products. This taste is characteristic of products with peculiar healthy features (Cavallo, et al., 2017), but it is basically avoided by most of consumers due to an evolutionary mechanism through which humans used bitter as a shortcut for identifying poison (Drewnowski & Gomez-Carneros, 2000). The lack of exposure has led consumers to further avoid and dislike food characterized by this taste (Stein, et al., 2003). An obstacle is represented by the widespread belief among consumers, that what is healthy cannot taste good (Raghunathan, et al., 2006; Verbeke, 2006).

Although difficulties represented by the avoidance toward bitter widespread among consumers, there are some successful experience in this field, for instance, what happened in recent years for a particular product: the bitter chocolate. In fact, over the years, newspapers and media communicated broadly the healthy features connected to eating this food (Dorey & McCool, 2009), founded on scientific bases (McEwen, 2018). Considering also the psychoactive effects of chocolate on mood (Garcia-Burgos & Zamora, 2013), there is a stable and wide segment of consumers preferring bitter chocolate over the milk chocolate (less bitter) (Harwood, et al., 2012). Indeed, sensory properties have been used to signal a credence attribute to consumers that, over the years, shifted their preferences towards the dark chocolate having now the largest market shares in the global market (Watt, 2015).

4 Analyzing relations between credence cues and product characteristics: innovative marketing developments

Recent data from USDA shows the incredible amount of food products' claims related to free from (GMO, antibiotics, hormones), green, eco-friendly, sustainable, natural and similar (Lusk, 2018). Consequently, a large amount of studies have nourished attempting to measure the effects of credence on consumers' choice and liking. Whilst several difficulties persist, scholars settle that the most effective manner to gather reliable consumer insights is to combine methodologies that provide a detailed view of the role (and interactions) of sensory and extrinsic product properties on preferences. Recently Asioli, et al. (2017) have underlined the advantages of methods as integrating sensory evaluations in conjoint analysis, hedonic testing and descriptive approaches (e.g. projective mapping and check-all-that-apply). Researchers are also devolving increasing attention in combining eye tracking data with choice-conjoint outcomes (Ares, et al., 2014) to better understand how consumers react to credence labels; and even functional magnetic resonance imaging to grasp information on brain processes (Lusk, et al., 2015). Further studies match incentive compatible techniques with consumer hedonic evaluations to uncover the effect of credence attributes on taste and on willingness-to-pay, in non-hypothetical conditions (Combris, et al., 2009). These mechanisms, as real choice experiments, experimental auctions and lotteries, provide incentives for individuals to reveal their true preferences and allow researchers to analyze the effect of potential determinants of choice and liking, while controlling the setting (De Steur, et al., 2014). However, in our view the possibilities offered by combining experimental economic techniques, behavioral economic insights and hedonic measurements have not yet been fully exploited (Figure 1). Indeed further, and more vigorous, collaborations among scholars of different disciplines (as sensory analysts, marketers, social scientists and applied economists) should foster the development of sound protocols and valid experimental designs based on robust behavioral theories (e.g. elaboration-likelihood model) that could greatly contribute to the understanding of the fast evolving, and highly heterogeneous, food consumer. Indeed, many studies have measured the effects of credence attributes on sensory expectations and hedonic appraisal of food and beverages (Piqueras-Fiszman & Spence, 2015); but most of these do not include monetary evaluations and behavioral intuitions. Further research should better depict the economic trade-offs that specific market segments perform between products' intrinsic attributes and credence attributes. For instance, the project BEHAVE (The BittEr, the HeAlthy: promoting healthier VEgetables and olive oil through experimental and behavioral economics) goes in this direction aiming to provide an assessment of the role of health-related information (usually widely appreciated) linked to bitter-taste (towards which there is a general aversion) in consumers' food choices and to derive implications for the provision and communication of such information.

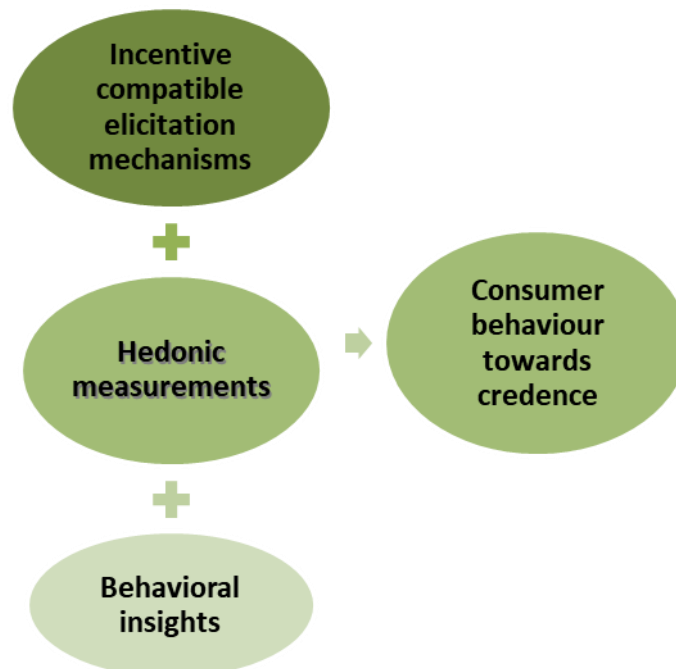


Figure 1. Illustration of combined approaches to measure the effects of credence attributes on consumer behaviour

List of References

- Aertsens, J., Verbeke, W., Mondelaers, K., and Van Huylenbroeck, G. (2009). Personal determinants of organic food consumption: a review. *British food journal* **111** (10): 1140-1167.
- Aprile, M. C., Caputo, V., and Nayga Jr, R. M. (2012). Consumers' valuation of food quality labels: the case of the European geographic indication and organic farming labels. *International Journal of Consumer Studies* **36** (2): 158-165.
- Ares, G., Mawad, F., Giménez, A., and Maiche, A. (2014). Influence of rational and intuitive thinking styles on food choice: Preliminary evidence from an eye-tracking study with yogurt labels. *Food Quality and Preference* **31**: 28-37.
- Asioli, D., Varela, P., Hersleth, M., Almli, V. L., Olsen, N. V., and Næs, T. (2017). A discussion of recent methodologies for combining sensory and extrinsic product properties in consumer studies. *Food Quality and Preference* **56**: 266-273.
- Berg, L., Kjaernes, U., Ganskau, E., Minina, V., Voltchkova, L., Halkier, B., and Holm, L. (2005). Trust in food safety in Russia, Denmark and Norway. *European Societies* **7** (1): 103-129.
- Carrillo, E., Varela, P., Salvador, A., and Fiszman, S. (2011). Main factors underlying consumers' food choice: a first step for the understanding of attitudes toward "healthy eating" *Journal of Sensory Studies* **26** (2): 85-95.
- Caswell, J., Mojduszka, E. M. (1996). Using Informational Labeling to Influence the Market for Quality in Food Products. *American Journal of Agricultural Economics* **78** (5): 1248-1253.
- Cavallo, C., Caracciolo, F., Cicia, G., and Del Giudice, T. (2018). Extra-Virgin Olive Oil: Are consumers provided with the sensory quality they want? A Hedonic Price model with sensory attributes. *Journal of the Science of Food and Agriculture* **98**: 1591-1598.
- Cavallo, C., Piqueras-Fiszman, B. (2017). Visual elements of packaging shaping healthiness evaluations of consumers: The case of olive oil. *Journal of Sensory Studies* **32**, e12246.
- Combris, P., Bazoche, P., Giraud-Héraud, E., and Issanchou, S. (2009). Food choices: What do we learn from combining sensory and economic experiments? *Food Quality and Preference* **20** (8): 550-557.
- De Jonge, J., Frewer, L., Van Trijp, H., Jan Renes, R., De Wit, W., and Timmers, J. (2004). Monitoring consumer confidence in food safety: an exploratory study. *British food journal* **106** (10/11): 837-849.
- De Jonge, J., Van Trijp, H., Goddard, E., and Frewer, L. (2008a). Consumer confidence in the safety of food in Canada and the Netherlands: The validation of a generic framework. *Food Quality and Preference* **19** (5): 439-451.
- De Jonge, J., Van Trijp, H., Jan Renes, R., and Frewer, L. (2007). Understanding consumer confidence in the safety of food: its two-dimensional structure and determinants. *Risk analysis* **27** (3): 729-740.
- De Jonge, J., Van Trijp, J., van der Lans, I. A., Renes, R. J., and Frewer, L. J. (2008b). How trust in institutions and organizations builds general consumer confidence in the safety of food: A decomposition of effects. *Appetite* **51** (2): 311-317.
- De Steur, H., Vanhonacker, F., Feng, S., Shi, X., Verbeke, W., and Gellynck, X. (2014). Cognitive biases and design effects in experimental auctions: An application to GM rice with health benefits. *China Agricultural Economic Review* **6** (3): 413-432.
- Dierks, L. H., Hanf, C.-H. (2006). Trust as a determinant of consumer behaviour in food safety crises. In *26th International Association of Agricultural Economists Conference*.
- Dorey, E., McCool, J. (2009). The Role of the Media in Influencing Children's Nutritional Perceptions. *Qualitative Health Research* **19** (5): 645-654.
- Drewnowski, A., Gomez-Carneros, C. (2000). Bitter taste, phytonutrients, and the consumer: a review. *The American journal of clinical nutrition* **72** (6): 1424-1435.
- Ebert, T., Fritz, M., Rickert, U., and Schiefer, G. (2006). Operationalisation of trust in business networks dealing with complex products and food products. In *Trust and risk in business networks: Proceedings of the 99th Seminar of the European Association of Agricultural Economists (EAAE), Bonn, Germany, 8-10 February, 2006*. (pp. 127-138): Universität Bonn-ILB.
- Feldmann, C., Hamm, U. (2015). Consumers' perceptions and preferences for local food: A review. *Food Quality and Preference* **40**: 152-164.

- Fernqvist, F., Ekelund, L. (2014). Credence and the effect on consumer liking of food – A review. *Food Quality and Preference* **32**: 340-353.
- Frewer, L. J., Howard, C., Hedderley, D., and Shepherd, R. (1996). What determines trust in information about food-related risks? Underlying psychological constructs. *Risk analysis* **16** (4): 473-486.
- Garcia-Burgos, D., Zamora, M. (2013). Facial affective reactions to bitter-tasting foods and body mass index in adults. *Appetite* **71**: 178-186.
- Giampietri, E., Koemle, D., Yu, X., and Finco, A. (2016). Consumers' Sense of Farmers' Markets: Tasting Sustainability or Just Purchasing Food? *Sustainability* **8** (11): 1157.
- Giampietri, E., Verneau, F., Del Giudice, T., Carfora, V., and Finco, A. (2018). A Theory of Planned behaviour perspective for investigating the role of trust in consumer purchasing decision related to short food supply chains. *Food Quality and Preference* **64**: 160-166.
- Greenberg, M. R. (2014). Energy policy and research: the underappreciation of trust. *Energy Research & Social Science* **1**: 152-160.
- Grolleau, G., Caswell, J. A. (2006). Interaction between food attributes in markets: the case of environmental labeling. *Journal of Agricultural and Resource Economics* **31** (3): 471-484.
- Grunert, K. G. (2002). Current issues in the understanding of consumer food choice. *Trends in Food Science & Technology* **13** (8): 275-285.
- Grunert, K. G. (2005). Food quality and safety: consumer perception and demand. *European Review Of Agricultural Economics* **32** (3): 369-391.
- Grunert, K. G., Bech-Larsen, T., and Bredahl, L. (2000). Three issues in consumer quality perception and acceptance of dairy products. *International Dairy Journal* **10** (8): 575-584.
- Gulev, R. E. (2012). Exploring cultural values connected to sustainability: why some people are more likely to act in a sustainable manner than others. *International Journal of Sustainable Economy* **4** (3): 286-299.
- Harwood, M. L., Ziegler, G. R., and Hayes, J. E. (2012). Rejection thresholds in chocolate milk: Evidence for segmentation. *Food Quality and Preference* **26** (1): 128-133.
- Hobbs, J. E., Goddard, E. (2015). Consumers and trust. *Food Policy* **52**: 71-74.
- Janssen, M., Hamm, U. (2012). Product labelling in the market for organic food: Consumer preferences and willingness-to-pay for different organic certification logos. *Food Quality and Preference* **25** (1): 9-22.
- Kramer, R. M., Tyler, T. R. (1996). *Trust in organizations: Frontiers of theory and research*: Sage.
- Lang, J. T., Hallman, W. K. (2005). Who does the public trust? The case of genetically modified food in the United States. *Risk analysis* **25** (5): 1241-1252.
- Lee, H.-J., Hwang, J. (2016). The driving role of consumers' perceived credence attributes in organic food purchase decisions: A comparison of two groups of consumers. *Food Quality and Preference* **54**: 141-151.
- Luhmann, N. (1979). *Trust and power* Chichester. *United Kingdom: John Wiley and Sons, Inc.*
- Lusk, J. L. (2018). Separating Myth from Reality: An Analysis of Socially Acceptable Credence Attributes. *Annual Review of Resource Economics*, in press. doi:10.1146/annurev-resource-100517-023153.
- Lusk, J. L., Crespi, J. M., Cherry, J. B. C., McFadden, B. R., Martin, L. E., and Bruce, A. S. (2015). An fMRI investigation of consumer choice regarding controversial food technologies. *Food Quality and Preference* **40**: 209-220.
- Mazzocchi, M., Stefani, G., and Henson, S. J. (2004). Consumer welfare and the loss induced by withholding information: The case of BSE in Italy. *Journal of Agricultural Economics* **55** (1): 41-58.
- McEwen, B. J. (2018). Medical Synopsis: The cardiometabolic benefits of chocolate - can chocolate be the elusive elixir to optimum health? *Advances in Integrative Medicine* in press. doi:10.1016/j.aimed.2017.12.008.
- Meixner, O., Haas, R. (2016). Quality Labels in the Food Sector: What do Consumers Want to Know and where are they Looking for Information?. *International Journal on Food System Dynamics* **7**(4): 360-370.
- Moser, R., Raffaelli, R., and Thilmany-McFadden, D. (2011). Consumer preferences for fruit and vegetables with credence-based attributes: a review. *International Food and Agribusiness Management Review* **14** (2): 121-142.
- Nuttavuthisit, K., Thøgersen, J. (2017). The importance of consumer trust for the emergence of a market for green products: The case of organic food. *Journal of Business Ethics* **140** (2): 323-337.
- Oliver, R. L. (1980). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research* **17** (4): 460-469.

- Petts, J. (2008). Public engagement to build trust: false hopes? *Journal of Risk Research* **11** (6): 821-835.
- Piqueras-Fiszman, B., Spence, C. (2015). Sensory expectations based on product-extrinsic food cues: an interdisciplinary review of the empirical evidence and theoretical accounts. *Food Quality and Preference* **40**: 165-179.
- Raghunathan, R., Naylor, R. W., and Hoyer, W. D. (2006). The unhealthy= tasty intuition and its effects on taste inferences, enjoyment, and choice of food products. *Journal of Marketing* **70** (4): 170-184.
- Renn, O., Levine, D. (1991). *Credibility and trust in risk communication*: Springer.
- Roininen, K., Lähteenmäki, L., and Tuorila, H. (1999). Quantification of consumer attitudes to health and hedonic characteristics of foods. *Appetite* **33** (1): 71-88.
- Roselli, L., Cicia, G., Cavallo, C., Del Giudice, T., Carlucci, D., Clodoveo, M. L., and De Gennaro, B. C. (2018). Consumers' willingness to buy innovative traditional food products: The case of extra-virgin olive oil extracted by ultrasound. *Food Research International* **108**: 482-490.
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., and Camerer, C. (1998). Not So Different After All: A Cross-Discipline View Of Trust. *Academy of Management review* **23** (3): 393-404.
- Sapp, S. G., Arnot, C., Fallon, J., Fleck, T., Soorholtz, D., Sutton-Vermeulen, M., and Wilson, J. J. (2009). Consumer trust in the US food system: an examination of the recreancy theorem. *Rural Sociology* **74** (4): 525-545.
- Scarpa, R., Del Giudice, T. (2004). Market Segmentation via Mixed Logit: Extra-Virgin Olive Oil in Urban Italy. *Journal of Agricultural & Food Industrial Organization* **2** (1).
- Schoorman, F. D., Mayer, R. C., and Davis, J. H. (2007). An integrative model of organizational trust: Past, present, and future. *Academy of Management review* **32** (2): 344-354.
- Sheldon, I. M. (2017). Certification Mechanisms for Credence Attributes of Foods: Does It Matter Who Provides Diagnosis? *Annual Review of Resource Economics* **9**: 33-51.
- Sogn-Grundvåg, G., Larsen, T. A., and Young, J. A. (2014). Product differentiation with credence attributes and private labels: The case of whitefish in UK supermarkets. *Journal of Agricultural Economics* **65** (2): 368-382.
- Stein, L. J., Nagai, H., Nakagawa, M., and Beauchamp, G. K. (2003). Effects of repeated exposure and health-related information on hedonic evaluation and acceptance of a bitter beverage. *Appetite* **40** (2): 119-129.
- Verbeke, W. (2005). Agriculture and the food industry in the information age. *European Review Of Agricultural Economics* **32** (3): 347-368.
- Verbeke, W. (2006). Functional foods: Consumer willingness to compromise on taste for health? *Food Quality and Preference* **17** (1-2): 126-131.
- Visser, J., Trienekens, J., and van Beek, P. (2013). Opportunities for Local Food Production: A Case in the Dutch Fruit and Vegetables. *International Journal on Food System Dynamics* **4** (1): 73-87.
- Watt, A. (2015). Report: Dark chocolate leads global market. In. Accessed on: 9th of May 2018. URL: <https://www.candyindustry.com/articles/86995-report-dark-chocolate-leads-global-market>
- WHO. (2009). *Global health risks: mortality and burden of disease attributable to selected major risks*: World Health Organization.