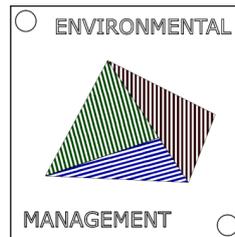


# DETERMINANT FACTORS OF CONSUMER PURCHASING INTENTION OF ENVIRONMENTALLY SUSTAINABLE FOOD

Agus Dwi NUGROHO - Tutur WICAKSONO - Zoltán LAKNER  
- Csaba Bálint ILLÉS - Róbert MAGDA



## ABSTRACT

*The human perspective on food has changed a lot. Initially, people fulfill their food needs just to survive or not starve. But nowadays, this is all changing, humans prioritize nutrition and environmentally friendly products. Of course, this is interesting because consumer behavior explains that consumers may not be interested in this type of food. The aim of this study is to know the determinant factors of consumer purchasing intention of environmentally sustainable food. To systematize the obtained results, this paper offers a literature review from the Scopus database. The literature used for the study is related to consumer intention for sustainable agricultural foods. The articles included in the review were selected on the basis of the aim of the research. Consumers purchasing intention of environmentally sustainable food is influenced by internal and external factors. Internal factors consist of age, gender, and education. Meanwhile, external factors consist of prestige, price and product information. The main strategies that need to be done to increase consumer purchasing intention are to encourage the efficiency of production and logistics of the environmentally sustainable food and to increase cooperation between stakeholders to disseminate content and benefits of the products.*

**KEY WORDS:** food; price; information; efficiency; cooperation.

## 1. Introduction

Various fields of research, including economics, have studied consumer behavior in depth. Several consumer behavior studies focus on how individuals or households make decisions to maximize utility and satisfaction when purchasing goods and services [1]. In general, consumers exhibit asymmetric behavior in searching for, purchasing, consuming, and evaluating the products and services they choose [2].

Consumer behavior can quickly change like resembles actions in a film where each actor has lines, props, and costumes that are necessary to a good performance. Since people act out many different roles, they may modify their consumption decisions according to the particular ‘play’ they are in at the time. The criteria that they use to evaluate products and services in one of their roles may be quite different from those used in another role [3]. Understanding consumer behavior will help us to understand how changes in income, prices, and other factors affect the demand for goods and services and why the demand for some products is more sensitive than others to changes in prices and income [4]. Consumers increasingly choose foods that are assured to be healthier, safer, and more environmentally friendly [5].

The external and internal factors have greatly influenced consumer decisions. External factors included in the marketing and other stimuli groups, such as family, reference group, social class, culture, religion and ethnicity, geography, and others. This group then added a marketing mix, namely product, price, place, and promotion. Next, the internal factor that Kotler and Armstrong called the buyer's Black Box consists of motivation, perception, knowledge, attitudes, and memory. Then, consumers will have an intention and make a response or decision to purchase or not to purchase [6].

One of the products that humans really need is food. Even though Robert Malthus said one day humans will have limited or shortage of food, it turns out that consumers still choose food according to their respective tastes. It is interesting to study because as previously stated, consumer behavior is very much influenced by many factors. The human perspective on food has also changed a lot. After the second world war, peoples fulfill their food needs just to survive or not starve. But nowadays, humans have realized the need to fulfill nutrition so that regulating the type of food becomes obligatory.

The other considerations, people's awareness of the environment has increased the demand for environmentally friendly food products. The pattern of crop cultivation has changed from the initial use of chemicals, what we know as the Green Revolution, to be minimizing the use of chemical pesticides and fertilizers. The pattern of land clearing has also become one of the concerns of consumers. Initially, consumers were willing to accept food products resulting from the conversion of forests to agricultural land (deforestation). Now, consumers are aware of damaging the environmental ecosystem or climate change, and consumers want the producers to provide environmentally friendly products. Then it followed by various certifications for environmentally friendly food products or eco-label, as well as agreements between exporting countries and importers such as Roundtable on Sustainable Palm Oil.

However, these are not necessarily enough, there are still prices, quality, or other factors that may cause consumers not to intend to buy environmentally sustainable food. So, the aim of this study is to know the determinant factors of consumer purchasing intention of environmentally sustainable food.

## 2. Methods

Regarding the search criteria, a literature research has been carried out using Scopus online database (www.scopus.com). The research considered a period of approximately 5 years, from January 2015 to December 2020. The searching process considered different combinations of the following keywords: 'consumer', 'purchasing intention', 'sustainable', 'agricultural product', and 'environmental'. These combinations have to appear in any of the sections of the eligible article. Then, 70 articles were identified in the Scopus database search, including double counts. Further, accurate screening of the identified papers was carried out to assess their relevance according to the aims of the literature review. Based on the title and abstract, 12 articles were selected and included in the consumer intention for environmentally sustainable agricultural products.

## 3. Results and Discussion

At first, ecology for some consumers is an attribute that is considered not very important. However, in recent times, this attribute has become one of the main considerations for consumers when purchasing products. Various requests regarding environmental sustainability certification are growing in the food business and can be stimulating farmers to also participate [7]. Even consumers will stop buy products produced by companies that pollute the environment. This relates to the social responsibility of each individual to defend the environment against economic progress and a higher level of concern for pollution [8]. This awareness is ultimately shared by consumers of food products.

Consumers who buy environmentally sustainable foods have several considerations. First, related to products, where quality is the most important. Consumers believe that when consuming a good product will guarantee the environment will be safe. However, this must be based on consumer knowledge about the impact of environmentally sustainable products that can be good for the land and the environment. Likewise, for livestock products, consumers consider the importance of meat branding that shows traceability in order to ensure that they are more secure in purchasing a product of

the desired quality. Furthermore, animal welfare is also a main consideration by consumers with greater involvement in the sustainability of meat purchasing. Second, consumer preferences and awareness about the benefit of the products on personal and family health. If a consumer already shopping for environmentally sustainable foods, like organic products, and learn about the health benefits and higher nutritional values, then their preference for healthy food will increase, and shopping this product again. Next reason is social factors. The case in China shows that there are consumers who choose this product because of prestige, the desire to be recognized as having high social status in the community. Another factor, social media, also shapes consumers' intention to purchase environmentally sustainable food because this media provides a lot of information about the benefits of products for health and the environment. The last reason is the perceived economic value of the products. Rational consumers really expect to get maximum economic value, that is spend as little income as possible but get high-quality products. Moreover, a country that has a lot of poor citizens will be prioritizing economic value more than other attributes during their shopping trips. Low-income consumers are reluctant to buy environmentally sustainable food because they think of these foods as "elite", "luxuries for the rich", "upscale", "marketing hype", or "for certain folks" [9, 10, 11, 12, 13].

Consumers in a developed country have a different thought while purchasing environmentally sustainable food, especially spend their money. For example, in Japan, consumers would be willing to pay for environmentally friendly agricultural products, especially organic products. In fact, they are willing to pay up to 33% more expensive for organic and safe products than conventional products. Labels regarding product information are the main consideration for consumers to do that. Consumers place great emphasis on detailed and clear information about food security and healthy. Other information that consumers need is the pesticides and fertilizers that are used to produce it as well as an effective communication suggestion to enhance the sustainable agricultural market. This also facilitates the process of product certification by trusted institutions [14].

The importance of the safety food certificate is also one of the considerations for consumers in developing countries to choose environmentally sustainable food. In China, consumers prefer meat that has organic and green food certification. Both represent the highest level of food safety. However, as previously explained, prices can reduce the consumption of environmentally sustainable food in developing countries [9, 15].

In another developed country, Italy, consumers are very concerned about food quality. If they want to buy food products, they will read food labels, certification, origin, and nutritional values. Even, if their knowledge has increased, consumers are willing to buy waste to value (WTV) food that is environmentally friendly. Knowledge about environmental sustainability and the naturalness of products makes the consumer easy to accept these foods [16]. The same findings also occur in developing countries. The issue of protecting the environment also motivates consumers to purchase environmentally friendly agricultural products [17].

Meanwhile, the inherent factors in each individual have different influences. Older peoples are less likely to buy environmentally sustainable food because of their conservative attitude towards rejecting new foods or technologies. This condition is the opposite of the educational factor, where an educated person is more rational and has a huge willingness to purchase environmentally sustainable foods. They pay attention to the various benefits for themselves and the environment. A similar situation occurred with male peoples who were more open to receive this food because they also paid attention to these benefits [16]. Although these results are debatable because in other studies, [17] showed otherwise. In this research, increasing age will increase people interest in buying environmentally sustainable food. Meanwhile, female consumers are more likely to put their willingness to purchase this product.

Product or market information and ecological knowledge really has a big influence on consumer purchasing decisions on environmentally sustainable food [8]. Consumers who never purchasing this product declare that they are not very price sensitive. But the main problem is they have not generally accepted its positive claims. This condition is caused by consumers not getting complete information (information asymmetry) about the impact of this food [17]. [15] stated that the consumers' understanding of safety-certified food has the greatest impact on the consistency of consumption

intention and behavior. Even can increase the consumption up to 61.4%. Therefore, some food companies have begun investing in brand communication, especially environmentally sustainable food, and it influences consumers' purchase attitude and intention to buy this product [10, 13, 18].

#### 4. Conclusion

Consumers purchasing intention of environmentally sustainable food is influenced by internal and external factors. Internal factors consist of age, gender, and education. According to the literature, all of these internal factors have different effects on consumers, which can strengthen or even weaken the intention to purchase this product. Meanwhile, external factors consist of prestige, social media, price, and product information. Most consumers refuse to purchase environmentally sustainable food when the price increases or is more expensive than conventional foods. Incomplete product information will also reduce consumer intention to purchase this product.

The main strategies that need to be done to increase consumer purchasing intention are to encourage the efficiency of production and logistics of the environmentally sustainable food and to increase cooperation between stakeholders (producers, companies, and government) to aggressively disseminate content and benefits of the products to consumers by social media or word-of-mouth. These two strategies can open up opportunities for further research, namely how to increase product and logistic efficiency and good communication patterns to socialize environmentally sustainable food about product, process or origin, certification, and other.

#### References

- [1] TANG, S., HAO, P. & J. FENG. (2020). Consumer behavior of rural migrant workers in urban China. *Cities*, 106., 102856 (November 2020), ISSN 0264-2751.
- [2] RAJAGOPAL. (2019). Consumer Behavior: Internal Factors. In: *Contemporary Marketing Strategy Analyzing Consumer Behavior to Drive Managerial Decision Making*. Palgrave Macmillan, ISBN 978-3-030-11911-9. London, pp 3-33.
- [3] SOLOMON, M., BAMOSSY, G., ASKEGAARD, S. & M.K. HOGG. (2006). *Consumer Behaviour a European Perspective 3rd Edition*. Prentice Hall, ISBN 978-0273-68752-2, New Jersey, pp. 6.
- [4] PINDYCK, R.S. & D.L. RUBINFELD. (2013). *Microeconomics 8<sup>th</sup> edition*. Prentice Hall, ISBN 978-0-13-285712-3, New Jersey, pp. 67.
- [5] HORSKÁ E., ŪRGOVÁ J. & R. PROKEINOVÁ. (2011). Consumers' food choice and quality perception: Comparative analysis of selected Central European countries. *Agricultural Economics – Zemedelska Ekonomika*, 57., 10., (February 2011) 493–499, ISSN 1805-9295.
- [6] KOTLER, P. & G. ARMSTRONG. (2006). *Principles of Marketing, Eleventh Edition*. Prentice Hall, ISBN 978-0-13-146918-1, New Jersey, pp. 46.
- [7] MARGARISOVA, K., VOKACOVA, L., KURALOVA, K. & T. HLAVSA. (2018). Regional branding: customer's experience with the certified products. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 66., 6., (December 2018) 1549-1556, ISSN 1211-8516.
- [8] LARIOS-GOMEZ, E. (2019). Relation among ecological affect, concern and knowledge and purchase behavior: a study regarding Mexican consumers. *Revista Brasileira de Marketing*, 18., 3., (December 2019) 73-100, ISSN 2177-5184.
- [9] NEDRA, B.A., SHARMA, S. & A. DAKHLI. (2015). Perception and motivation to purchase organic products in Mediterranean countries an empirical study in Tunisian context. *Journal of Research in Marketing and Entrepreneurship*, 17., 1., (July 2015) 67-90, ISSN 1471-5201.
- [10] WEERASIRI, R.A.S. & N.H.K. COORAY. (2016). Factors influencing on the purchase intention of organic food products in Sri Lanka. *International Journal of Applied Business and Economic Research*, 14., 5., (September 2016) 3043-3057, ISSN 0972-7302.
- [11] POLIMENI, J.M., IORGULESCU, R.I. & A. MIHNEA. (2018). Understanding consumer motivations for buying sustainable agricultural products at Romanian farmers markets. *Journal of Cleaner Production*, 184., (May 2018) 586-597, ISSN 1879-1786.

- [12] BAI, L., WANG, M. & S. GONG. (2019). Understanding the antecedents of organic food purchases: the important roles of beliefs, subjective norms, and identity expressiveness. *Sustainability*, 11., 11., (May 2019) 3045, ISSN 2071-1050.
- [13] BURNIER, P.C., SPERS, E.E. & D. GUERRA. (2020). Effect of production process and attitudes on the intent to buy sustainable beef. *Journal of International Food & Agribusiness Marketing*, 32., 2., (April 2019) 168-197, ISSN 1528-6983.
- [14] SEO, Y., SOMEYA, Y. & K. DOWAKI. (2019). Environmental impacts and consumer preference for sustainably cultivated Japanese mustard spinach, komatsuna. *Journal of Environmental Management*, 231., (February 2019) 364-369, ISSN 1095-8630.
- [15] WANG, J., SHEN, M. & S. GAO. (2018). Research on the irrational behavior of consumers' safe consumption and its influencing factors. *International Journal of Environmental Research Public Health*, 15., 12., (December 2018) 2764, ISSN 1660-4601.
- [16] CODERONI, S. & M.A. PERITO. (2020). Sustainable consumption in the circular economy. an analysis of consumers' purchase intentions for waste-to-value food. *Journal of Cleaner Production*, 252., (April 2020) 119870, ISSN 1879-1786.
- [17] NGUYEN, H.T. & H.T. LE. (2020). The effect of agricultural product eco-labelling on green purchase intention. *Management Science Letters*, 10., 12., (December 2020) 2813-2820, ISSN 1923-9343.
- [18] GERINI, F., ALFNES, F., & A. SCHJOLL. (2016). Organic and animal welfare-labelled eggs: competing for the same consumers? *American Journal of Agricultural Economics*, 67., 2., (March 2016) 471-490, ISSN 1477-9552.

## CONTACT ADDRESS

### **Agus Dwi NUGROHO**

Doctoral School of Economics and Regional Sciences, Szent Istvan Egyetem, Pater Karoly utca 1, Godollo 2100, Hungary  
e-mail: agus.dwi.n@mail.ugm.ac.id

### **Tutur WICAKSONO**

Doctoral School of Economics and Regional Sciences, Szent Istvan Egyetem, Pater Karoly utca 1, Godollo 2100, Hungary

### **Zoltán LAKNER**

Doctoral School of Economics and Regional Sciences, Szent Istvan Egyetem, Pater Karoly utca 1, Godollo 2100, Hungary

### **Csaba Bálint ILLÉS**

Doctoral School of Economics and Regional Sciences, Szent Istvan Egyetem, Pater Karoly utca 1, Godollo 2100, Hungary

### **Róbert MAGDA**

Doctoral School of Economics and Regional Sciences, Szent Istvan Egyetem, Pater Karoly utca 1, Godollo 2100, Hungary  
e-mail: Magda.Robert@szie.hu

#### **RECENZIA TEXTOV V ZBORNÍKU**

*Recenzované dvomi recenzentmi, členmi vedeckej rady konferencie. Za textovú a jazykovú úpravu príspevku zodpovedajú autori.*

#### **REVIEW TEXT IN THE CONFERENCE PROCEEDINGS**

*Contributions published in proceedings were reviewed by two members of scientific committee of the conference. For text editing and linguistic contribution corresponding authors.*