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Original Article

The impact of consumer skepticism on the perceived value of organic food and purchase intention

O impacto do ceticismo do consumidor no valor percebido de alimentos orgânicos e na intenção de compra

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Abstract

Purpose: The purpose of this paper is to evaluate the impact of consumer skepticism on the perceived value of organic food and purchase intention.
Design/methodology/approach: Quantitative research was carried out using a survey applied to a sample of 404 Brazilian respondents. Data analysis included the use of descriptive statistics and partial least squares structural equation modeling.
Findings: The study confirmed the negative relationship between skepticism and the perceived value of organic food and the positive relationship between the perceived value and the purchase intention. In contrast, the negative relationship between skepticism and purchase intention was not confirmed by data analysis.
Practical implications: By exploring why consumers display skepticism, brands can seek to overcome such skepticism, build trust, refine their value propositions, and differentiate their products. Effective communication strategies can showcase quality and authenticity while justifying premium prices. It is suggested that public policymakers should promote information campaigns to improve knowledge about the production and consumption of organic food and how this has a positive impact on people's health and the environment.
Social implications: The results of this research can lead to people's quality of life being improved if they switch to consuming natural and environmentally sound food.
Originality: This study can be considered one of the first to address the relationship between consumer skepticism and the perceived value of organic food and the purchase intention. This includes pointing to the influence of contextual factors, such as consumer skepticism and consumer behavior.

Keywords: Consumer skepticism; Perceived value; Purchase intention; Organic and alternative food; Sustainable consumption

Resumo

Objetivo: O objetivo deste artigo é avaliar o impacto do ceticismo do consumidor no valor percebido e na intenção de compra de alimentos orgânicos.
Desenho/metodologia/abordagem: Pesquisa realizada mediante questionário aplicado em uma amostra de 404 entrevistados brasileiros. A análise dos dados incluiu estatística descritiva e modelagem de equações estruturais por mínimos quadrados parciais.
Constatações: O estudo confirmou a relação negativa entre o ceticismo e o valor percebido dos alimentos orgânicos e a relação positiva entre o valor percebido e a intenção de compra. Em contraste, a relação negativa entre ceticismo e intenção de compra não foi evidenciada.
Implicações práticas: Ao entender o ceticismo, as marcas podem educar os consumidores, construir confiança, refinar propostas de valor e diferenciar seus produtos. Estratégias de comunicação eficazes podem demonstrar a qualidade e autenticidade e, simultaneamente, justificar os preços *premium*. Sugere-se aos criadores de políticas públicas a promoção de campanhas informativas para melhorar o conhecimento sobre produção e consumo orgânicos e seu impacto positivo na saúde das pessoas e no meio ambiente.
Implicações sociais: Os resultados podem subsidiar a melhoria da qualidade de vida das pessoas através do consumo de alimentos saudáveis e ambientalmente corretos.
Originalidade: Este estudo pode ser considerado um dos primeiros a abordar a relação entre o ceticismo do consumidor, o valor percebido e a intenção de compra de alimentos orgânicos, apontando para a influência de fatores contextuais, como o ceticismo do consumidor no comportamento do consumidor.

Palavras-chave: Ceticismo do consumidor; Valor percebido; Intenção de compra; Alimentos orgânicos e alternativos; Consumo sustentável

1 INTRODUCTION

On the supply side of producing food, there is no doubt that socially and environmentally sustainable food production is necessary to address future challenges, such as the degradation of natural resources, the loss of biodiversity, and the continuous depopulation of rural areas (Ekins & Zenghelis, 2021). Organic food production systems are potential remedies for these challenges (Feil, Cyrne, Sindelar, Barden, & Dalmoro, 2020). On the demand side of the purchase of food, the growing concern with health and the awareness of sustainability issues among consumers has led to an increase in the consumption of organic food (Cinjarevic et al., 2018; Watanabe et al., 2020).

Analysis shows that the consumption of organic food has exponentially increased over the last two decades, with an annual growth rate higher than that in

the market for conventional food (Molinillo, Vidal-Branco, & Japutra, 2020), both in developed and developing economies (Feil et al., 2020). Nevertheless, the vast and continually increasing demand for organic food, coupled with the limited capacity of organic production, have caused supply chain challenges, while certification costs have kept the law of supply and demand unbalanced (Peng, 2019; Kottila & Rönni, 2008). This imbalance results in upward pressure on prices.

Porto and Nordi (2019) suggest that organic food is characterized by the mode of production concerning conventional agriculture. Organic food is that which complies with all the norms of organic production, in line with the idea of sustainability and generating the least possible damage to the environment and consumers' health. Therefore, for a product to be considered organic, it needs to be certified and labeled as produced by optimizing the use of natural and socioeconomic resources, while avoiding the use of chemicals, genetically modified organisms, and ionizing radiation (Porto et al., 2019).

In the Brazilian scenario, there has been a rapid and significant increase in the internal demand for organic food. This has been driven by the growing number of consumers who, compared with the past, are more concerned with healthy eating and are more environmentally conscious, which has resulted in a growth in domestic consumption and national production. According to the Brazilian Supermarket Union, Brazil has the largest consumer market in organic food in Latin America, with 1.1 billion Euros of retail sales in 2021 (ABRAS, 2022), 12 percent higher than in 2020. Corroborating this finding, Sica and Franco (2024) state that 39 percent of the Brazilian population consumes some items of organic food. which is a remarkably high percentage which indicates that knowledge of the benefits of organic food is widespread throughout Brazil, a country of continental size, and that organic food is widely available.

Moreover, Brazil is the 12th producer of organic food in the world, with 750 thousand hectares of organic agricultural land, but still with a domestic market

share of nearly 1 percent, while other European markets, in comparison, are already above 5 percent (Watanabe et al., 2020). Although Brazil is considered one of the biggest world producers of organic food, high exportation rates lead to reduce the internal supply, which, jointly with the higher price of these products, constitutes a barrier for Brazilian consumers (Sica & Franco, 2024). These data reveal the potential of this market, which, even though its rapid growth, can be considered still underexplored.

Although all types of organic food are considered typical credence goods, their quality is difficult to verify at the time of purchase and even after consumption (Xing, Li, & Liao, 2022). For this reason, it is said that consumers need to believe in the reliability of what is stated on the labeling of organic food. However, many consumers judge that greenwashing practices are also common in the organic market, giving rise to the so-called organic washing phenomenon (Andreoli & Cardoso, 2024). This can be considered a branding strategy to convince consumers about the organic features of a product. As a direct consequence, many consumers have become skeptical about the healthiness of products promoted as organic, and about the environmental certifications and labeling (Nunes, 2021). This kind of skepticism is called organic food skepticism (Cinjarevic et al., 2018; Yu et al., 2022), which, according to Hughner et al. (2007), affects the perceived value of these products, hence, altering the purchase decision-making process. Note that other factors can have an impact on organic food skepticism upstream such as knowledge of the product, its environmental value, consumers' environmental concerns, or suppliers' conservation behavior (Yiridoe et al., 2005; Tandon et al., 2020).

Even though the concept of green skepticism related to the purchase decision-making process has been addressed in the literature, few studies explore the effect of organic food skepticism on the decision-making process prior to purchasing organic food (Albayrak et al., 2013; Hoyos-Vallejo et al., 2023; Carrión

Bósquez et al., 2023). In addition, according to Carrión Bósquez et al. (2023) the lack of research is even greater in developing countries.

Some of these studies examine the role of subjective knowledge and skepticism about organic food in shaping consumers' attitudes (Cinjarevic et al., 2018); functional and emotional values on consumer trust and the intention to purchase organic food (Watanabe et al., 2020); consumers' skepticism and organic food production technologies (Nathan et al., 2021); consumers' awareness of health issues, their skepticism and their intention to purchase functional food (Gineikiene et al., 2017); environmentally-conscious purchase behavior, green skepticism, and organic food consumption (Golob et al., 2018); message credibility and green advertising as drivers of organic food consumption and the negative effect of green skepticism (Jäger et al., 2020); and comparative advertising in organic food communication linked to premium prices among consumers who are skeptical about organic food (Yu et al., 2022).

Considering this gap in the literature, this research is guided by the following question: to what extent does consumer skepticism towards organic food impact perceived value and purchase intention? The study aimed to assess the impact of consumer skepticism on the perceived value of organic food and purchase intention. Published studies have reported factors that influence the purchase of organic food, most of which focus only on developed economies (Molinillo et al., 2020). This emphasizes the need to increase the number of studies on other realities such as Brazil being regarded as having an emerging economy, where the organic food market is growing at a notable pace (Watanabe et al., 2020). Moreover, the literature points to discrepancies in the results of studies since some indicate that skepticism does influence the intention to purchase organic products while others do not corroborate these findings (Hoyos-Vallejo et al., 2023).

This study offers theoretical, practical, and social contributions as it is one of the first to address the influence of skepticism on the perceived value

of organic food and consumers' purchase intention in the Brazilian context. Nowadays, companies in Brazil have to be ready to face consumers who are more demanding and have more complex questions, characterized by displaying higher environmental, health, and social awareness. As managerial implications, results can be used by marketers, retail managers, and policymakers to win greater trust from consumers in a company's labeling of organic food and to increase consumers' perceived value of organic food and their purchase intention. Social contribution involves understanding the context of organic food, and that it promotes enhancing people's quality of life by encouraging them to purchase and consume healthy and environmentally sustainable food.

2 THEORETICAL BACKGROUND

Although the consumer's perception of the quality of a product triggers purchase intention, this perception depends deeply on the flow of information between buyers and sellers during marketing interaction (Rosli, Che Ha, & Ghazali, 2019). In most cases, this is completely unbalanced because of information asymmetry. One possible solution to this problem is the use of signals or actions taken to reveal information regarding unobservable conditions (e.g., product quality). However, in a wide range of cases - such as organic products - consumers are skeptical about signals and information displayed on the labels of products, which makes it more difficult to meet the consumer's demands, has an impact on the intention to purchase, and tests the competitiveness of firms.

2.1 Skepticism about Organic food and purchase intention

The beginning of the discussion on consumer skepticism is attributed to the seminal work by Shrum et al. (1995), published in the Journal of Advertising. In the conclusions, the authors suggest that the consumer of green products is a careful,

informed buyer, and opinion leader. It is difficult to persuade this consumer to change his/her view of organic food because of his/her skepticism towards the information contained in the advertising and labeling of these products (Diógenes, Da Silva, & Costa, 2017).

Goh and Balaji (2016) point out that skepticism has a key role in consumer behavior, and this has an adverse impact on numerous firms. Several companies and sectors attract much discredit, especially regarding the information they produce on the features and benefits of their products (Da Silva, Urdan, Merlo, & Dias, 2015). This apprehension becomes even more intense concerning organic food.

According to Obermiller and Spangenberg (1998), skepticism is the general tendency or inclination of an individual to distrust or doubt others. The literature suggests that there is no consensus on the nature of skepticism. Although some authors treat skepticism as a personality characteristic (Obermiller and Spangenberg, 1998; Skarmeas and Leonidou, 2013), most researchers consider it as a temporary consumer state, induced by situational factors independent of the consumer's personality (Patel et al., 2017; Vanhamme and Grobben, 2009). Although skeptical consumers are different, in terms of their degree of mistrust or disbelief, they can change their minds when faced with sufficient evidence.

Adopting this perspective, Goh and Balaji (2016) coined the term 'green skepticism', defined as the tendency to doubt the environmental claims made for green products and their performance. Although the concept of skepticism has been widely addressed in the context of advertising, corporate social responsibility, environmental labeling, marketing, and green products, few studies address consumer skepticism regarding organic food.

Cinjarevic et al. (2018) defined the concept of organic food skepticism as situational skepticism caused by claims made in marketing messages regarding

organic food. According to these researchers, there have been numerous scandals linked to the presence of dioxins, highly carcinogenic contaminants, in food that is considered to be organic. In addition, the trade in genetically modified food has been severely criticized for using hormones and artificial additives in food production. Consequently, many consumers have become skeptical of products that are promoted as organic, biological, or natural. Moreover, Rana and Paul (2017) argue that consumers tend to consider the health and safety spectrum of organic food as being potentially polluted due to the presence of chemical residues, hormones, and natural toxins. Such skepticism can lead to an unfavorable attitude toward these products, generating a direct effect on attitudes toward their consumption.

Hughner et al. (2007) consider that consumer skepticism regarding the information contained in the labeling of organic food is one of the deterrents to the intention to purchase these products. Morel and Pruyn (2003) add that consumer skepticism leads to a product being judged negatively, an unfavorable opinion that triggers a low intention to purchase it. Chang and Cheng (2015) studied the effect of skepticism on purchase intention and found a significantly negative effect, while Nguyen et al. (2019) suggest that greenwash is negatively associated with green purchase intention and that green skepticism mediates this negative association. More recently, Hou & Sarigöllü (2022) posit that green benefits increase the perceived value of green products, producing an increase in purchase intention. Based on these theoretical assumptions it is possible to formulate the following hypothesis:

H1: Skepticism towards organic labeling negatively impacts the purchase intention of organic food.

2.2 Skepticism and the perceived value of organic food

According to Zeithaml (1988), perceived value is an overall assessment by the consumer of the usefulness of a product or service based on perceptions of

what is obtained and what is delivered for it. Perceived value is considered to be a construct of a complex nature, as there is no consensus on its precise definition and characteristics (Sánchez-Fernández and Iniesta-Bonillo, 2007).

For Sweeney and Soutar (2001), even though perceived value has been widely discussed at a generic level in the literature, it can easily be confused with satisfaction. While perceived value occurs at various stages of the buying process, satisfaction is universally conceived as post-purchase and post-use evaluation. However, the perception of value can be generated without the product or service being purchased or used, while satisfaction depends on the experience that arises from using the product or service. Perceived value is described by the authors as consisting of four dimensions: functional, economic, emotional, and social.

The functional value represents the usefulness that the consumer perceives when making a choice that will bring him practical or utilitarian results; the economic value is the financial value involved in the exchange; the social value is related to the social acceptance that the consumer receives in a certain group due to the choice made; the emotional value is related to positive emotional aspects generated by the choice made.

According to Luo et al. (2020), when consumers are skeptical of advertising, they are more likely to attribute advertisement to money-making or corporate image-improving motives, and, consequently, this suspicion leads to a negative product judgment. This means that consumer skepticism about a product or a service is a concept closely associated with its perceived value. Furthermore, Grunert et al. (2014) claim that if trust in the labeling of organic decreases, there will also be a decrease in the belief that the product meets the conditions set for it to be considered organic, and this may negatively impact its perceived value.

Besides, in similar studies, it has been found that skepticism has a strong negative effect on consumers' judgment of a product (Morel & Pruyn, 2003); that consumers' perception of value will be attenuated when doubts about

environmentally friendly products can be eliminated, which is directly related to attenuating consumer skepticism (Bursan et al., 2022); and that there is a negative relationship between the perceived favorable image of a company and consumers' skepticism (Amawate & Deb, 2019).

Given the above, it is inferred that skepticism toward the labeling of organic products may generate a negative impact on the perceived value of organic food, thereby opening the path for the following hypothesis:

H2: Skepticism towards the labeling of organic products has a negative impact on the perceived value of organic food.

2.3 The perceived value of organic products and purchase intention

According to Wang et al. (2019), the study of purchase intention also involves the study of consumers' behavior and their intentions, thus making the construct of great relevance in consumer research. Accordingly, Lee and Lee (2015) consider that purchase intention can be considered meaningful only when a strong association between intention and action is supported. Moreover, purchase intention represents an important dimension in the marketing literature as it is used by companies to predict sales of new and existing products (Diallo, 2012) and demonstrates the consumers' tendency to purchase goods or services from the same establishment and to share their experience with friends and family (Cronin, Brady, & Hult, 2000).

Concerning organic products, purchase intention involves numerous aspects, among which are: concern with health, environmental awareness, product availability, perceived quality, distribution, nutritional value, certifications, price, willingness to pay, social awareness, lifestyle, quality, and safety, in addition, to taste (Rana and Paul, 2017). Consumers will seek the advantages of the product's attributes, related to basic motivations, such as physiological or security needs

(Marinao-Artigas et al., 2019). On this theme, Torres-Moraga and Vidal-Buitano (2022) investigate how autonomous and controlled motivations positively influence the customer's willingness to consider, recommend, or purchase from a retailer in the future.

Zhao et al. (2018) emphasize that consumers' perception of the benefits brought by the product, linked to its perceived value, is fundamental for the intention to purchase ecologically correct products. Furthermore, Loebnitz and Grunert (2018) state that consumers have a stronger intention to buy organic food when they are informed about the benefits of the products. Husic-Mehmedovic et al. (2017) investigated the influence of the attributes of organic food, including aspects related to functional value and purchase intention. The results showed a positive relationship between functional value and purchase intention, thereby confirming the importance of the utilitarian characteristics of this type of product.

Persaud and Schillo (2017) suggest that social identity, social influence, and perceived value impact Canadian consumers' purchase intention. Furthermore, Molinillo et al. (2020) explored the drivers of organic food purchasing in Brazil and Spain. Results showed that health concerns, related to functional value, which is a dimension of perceived value, affect the frequency of purchases of organic food. Accordingly, Katt and Meixner (2020) discussed the drivers that influence consumer willingness to pay for organic food. Results showed that issues related to perceived value, such as environmental awareness, health concerns, and the characteristics of the product associated with this - that is, quality, taste, and nutritional value – affect the intention to purchase organic food. In addition, Lin et al. (2021) found that the characteristics of a product (nutritional content, natural content, and ecological wealth) positively impact the perceived utilitarian value, and hedonic value, thus impacting the continuous purchase intention of consumers. Based on these assumptions, the third and last hypothesis of the research emerges:

H3: Perceived value positively affects the purchase intention of organic food.

3 Method

To address the study's objective, exploratory, cross-sectional, quantitative research was carried out following the methodological structure set out in Pujol-Cols and Davol (2020).

3.1 Participants

The sample of participants was defined by convenience, characterized by the availability of respondents to participate in the survey (Teddlie and Yu, 2007). In total, 404 individuals participated in this study, their ages ranging from 18 to 65 years old (see sample description in Table 2). To assess the minimum sample size appropriate for our analysis, we considered the construct "Purchase Intention" since it receives more predictors ("arrows"), according to the recommendations of Ringle *et al*. (2014) and used the G*Power 3.1.9.7 software, adopting the specifications of Cohen (1988) for social and behavioral sciences, i.e., the mean effect size is 0.15 and test power is 0.80. Under these conditions, a minimum sample size of 55 elements is recommended. Thus, the number of 404 respondents was considered sufficient for analysis.

3.2 Data collection procedure

The data collection procedure was conducted in the state of Paraiba which lies in the Northeast of Brazil. The population of interest consisted of consumers of organic food in general. An online structured questionnaire was applied for data collection, using the Google Forms tool®. The instrument was structured in two parts. The first included the respondents' sociodemographic information. The second part consisted of the items of the scales of organic food skepticism, perceived value, and purchase intention; all 5-point Likert-type scales, ranging from 1 (strongly disagree) to 5 (strongly agree).

3.3 Variables and instrument

The scale applied to measure organic food skepticism was based on the instrument used by Goh and Balaji (2016) which was adapted to the organic food context by Cinjarevic *et al*. (2018). This scale consists of three items, which seek to quantify consumer skepticism regarding the claims present on the labels of organic food (all items are listed in Table 1).

As for the consumers' perceived value of organic food, we used the scale proposed by Sweeney and Soutar (2001) and adapted by Nguyen *et al*. (2015) which consisted of 18 items. Finally, to measure purchase intention, we used the scale developed by Teng and Wang (2015) which has three items. The questionnaire was translated into Portuguese and submitted to a reverse translation process, according to Brislin (1970), and made available on digital platforms such as Instagram®, Facebook®, WhatsApp®, and LinkedIn®, during the period of collection. Table 1 presents the constructs, items, and authors that support the framework used in this research*:*

Table 1 – Constructs and scale of research

(Continued)

Constructs	Item	Enunciation	Authors
Consumer skepticism	CET1	Because claims ("healthy foods", "environmentally friendly foods, "eco foods") are exaggerated, consumers would be better off if such claims on package labels in advertising were eliminated	(Cinjarevic *et al*., 2018; Goh and Balaji, 2016)
	CET2	Most claims on organic food package labels or in advertising are intended to mislead rather than to inform consumer	
	CET3	I do not believe in most of the claims made on the organic food package labels or in advertising	

Table 1 – Constructs and scale of research

(Conclusion)

Constructs	Item	Enunciation	Authors
Perceived value	VP1	Organic food is good for health	(Nguyen *et al*., 2015; Sweeney and Soutar, 2001)
	VP2	Organic food is well-produced	
	VP3	Organic food is reliable	
	VP4	Organic food has acceptable standards of safety	
	VP5	Organic food has consistent quality	
	VP6	Organic food is tasty	
	VP7	Organic food has an acceptable standard of quality	
	VP8	Organic food is reasonably priced	
	VP9	Organic food offers value for money	
	VP10	Organic food is a good product for the price	
	VP11	Organic food is economical compared to other products	
	VP12	Consuming organic food makes me feel well	
	VP13	Consuming organic food makes me want to use more	
	VP14	Consuming organic food is something that I enjoy	
	VP15	Consuming organic food makes me feel relaxed about using	
	VP16	Consuming organic food helps me to feel acceptable	
	VP17	Consuming organic food makes a good impression on my family members	
	VP18	Consuming organic food fits in with food culture and tradition of my social circle	
Purchase intention	IC1	If organic food were available in the shops, I would buy them	(Teng and Wang, 2015)
	IC2	I am willing to buy organic food despite their higher prices	
	IC3	The probability that I would buy organic food is very high	

Source: Authors own creation (2024)

After defining the instrument, it was evaluated by being pretested. Hair, *et al*. (2010) recommend the use of pretests even on validated questionnaires since differences in context may challenge the understanding of the assertions. Our pre-test used a sample of 60 respondents with characteristics like those of the target population. Possible ambiguities in wording, scales, and format were filtered in this procedure. It was verified that it was not necessary to remove any question from the instrument at that stage.

Also, to reduce the potential impact of common method bias, all scales were clear and concise, with the use of multiple response formats, and participants were reminded of the anonymity and confidentiality of their answers (using a written consent form). Since all the measures were collected simultaneously at the same time, the Harman single-factor test was run, which returned 30.09 percent variance for the first factor (recommended less than 0.50), suggesting that common method variance did not have effects on the results of this research (MacKenzie and Podsakoff, 2012). To guarantee quality and scientific consistency, the evaluation of the measurement model included reliability tests, discriminant validity, internal consistency, and analysis of significance.

3.4 Data analysis and assessment of the quality of the research

Data were analyzed using the Statistical Package for Social Sciences – IBM SPSS® data analysis tool. In the first stage, an analysis of the demographic and behavioral data of the individuals belonging to the sample was developed. Then, the confirmatory factor analysis (CFA) by structural equation modeling with partial least squares method (PLS-SEM) was performed on all the constructs studied, which enables complex cause and effect relationships between latent constructs to be measured and is frequently used in research in the field of Social Sciences, using the SmartPLS® software (Ringle, Wende, & Becker, 2015).

Quality assessment of this study was undertaken using the framework in Tracy (2010). Our research addresses the relevant and timely issue of consumer behavior vis-à-vis organic foods amidst consumers' growing environmental

awareness, following a detailed and rigorous statistical analysis of the proposed conceptual model. We adhered to sincerity by being self-reflective and transparent about the research process, including acknowledging the study's limitations. As a quantitative study, credibility is supported by validated measures and confirmatory factor analysis. We aimed for resonance by seeking to write clearly and engagingly to capture and retain the reader's attention. Our study contributes to theory and practice, offering practical suggestions, arising from our findings, to marketers, retailers, and policymakers. Ethical standards were upheld by ensuring all participants signed informed consent forms and that confidentiality was strictly adhered to. Finally, we achieved meaningful coherence by aligning our methods, the literature review, and our findings with the study's objectives.

4 RESULTS

4.1 Sample Description

Data analysis began with characterizing the sample, presented in Table 2.

Table 2 – Sample composition

(Continued)

Sample by gender			Sample by age group		
Gender	**Resp.**	**%**	**Group**	**Resp.**	**%**
Male	169	41.8	18-25 years old	49	12.1
Female	235	58.2	26-35 years old	181	44.8
Total	**404**	**100%**	36-45 years old	111	27.5

Table 2 – Sample composition

(Conclusion)

Sample by gender			Sample by age group		
Sample by educational level			46-50 years old	26	6.4
Educational level	**Resp.**	**%**	51 + years old	37	9.2
Incomplete primary schools	2	0.5	**Total**	**404**	**100**
Complete primary schools	6	1.5	**Sample by marital status**		
Incomplete secondary schools	3	0.7	**Marital status**	**Resp.**	**%**
Complete secondary schools	38	9.4	Single	178	44.1
Incomplete higher education	66	16.3	Married	194	48.0
Complete higher education	79	19.6	Divorced	16	4.0
Incomplete Postgraduate	45	11.2	Widower	5	1.2
Complete Postgraduate	165	40.8	Other	11	2.7
Total	**404**	**100**	**Total**	**404**	**100**

Source: Authors own creation (2024)

From the responses received, the participants can be briefly characterized as follows: the majority of the 404 respondents are female, most respondents have concluded a post-graduation course, are in the 26 to 35-year-old age group, and most are married.

4.2 Estimation of the measurement model

According to the procedures indicated by Ringle et al. (2014), Cronbach's alpha reliability, composite reliability (CR), and average variance extracted (AVE) tests were first performed for each construct measured, in an attempt to estimate the measurement model. Internal consistency was assessed by Cronbach's alpha, which ranges from 0 to 1, with high values indicating a high level of consistency. For exploratory studies, a value between 0.60 and 0.70 is considered acceptable; for studies in more advanced stages, a value between 0.70 and 0.90 is considered satisfactory (Hair, Hult, Ringle, & Sarstedt, 2021).

Another important measure used to estimate the measurement model is the composite reliability of each construct, which describes the degree to which the indicators represent the latent variable in common. The composite reliability must have a value greater than or equal to 0.70 (or greater than or equal to 0.60 if the research is exploratory) to be considered satisfactory. The average variance extracted was the last parameter used for estimating the measurement model. It measures the convergent validity of the model and, as a validation criterion, should present a value greater than 0.50 (Hair et al., 2021).

In this study, the values obtained by using Cronbach's alpha and composite reliability tests are above 0.70 for all constructs, thus respecting the limits established by Hair et al. (2021). In the first analysis, two of the three constructs had an AVE value greater than 0.50, while the construct "perceived value" had an AVE equal to 0.352 and, therefore, below the threshold value of 0.50. In this situation, CFA suggests eliminating the observed variables with a lower factorial load (Ringle et al., 2014). The criterion adopted was the removal of the observed variables with a factorial load lower than or equal to 0.50 (Chin, 2010). Due to this chosen

criterion, 8 observed variables were eliminated from the construct "perceived value" to increase its AVE. The observed variables eliminated were: VP8, VP9, VP10, VP11, VP13, VP16, VP17, VP18. By eliminating these variables, a value of AVE>0.50 was reached for the aforementioned construct. Table 3 shows the reliability values of the construct "perceived value" after the purification procedure. As can be seen, the values of Cronbach's alpha and composite reliability are adequate because they are greater than 0.70, and convergent validity is guaranteed by an AVE > 0.50.

Table 3 – Convergent validity after purification

Construct	Cronbach's Alpha	rho(A)	CR	AVE
Perceived Value	0.891	0.893	0.910	0.504
Purchase Intention	0.826	0.837	0.895	0.740
Skepticism	0.729	0.736	0.848	0.653

Source: Authors own creation (2024)

The next step was to assess the discriminant validity of the model, which demonstrates if confirmed, that the constructs, or latent variables, are statically independent of each other (Hair *et al*., 2021)"title":"A primer on partial least squares structural equation modeling (PLS-SEM. Discriminant validity can be assessed by observing the cross-loading (Chin, 2010), or by using the criteria of Fornell and Larcker (1981). For the criteria of cross-loads, Ringle *et al*. (2014) recommend that the loads should be greater in their construct than in the others measured. For the criteria of Fornell and Larcker (1981), instead, the value of each column should be greater than the correlation between the constructs. In this study, Discriminant Validity was proven by both criteria (see Table 4):

Table 4 – Discriminant Validity by Fornell-Larker and cross-loads criteria

Criteria	Construct/variable	Perceived Value	Purchase Intention	Skepticism
Fornell and Larcker (1981)	Perceived Value	**0.710**		
	Purchase Intention	0.632	**0.860**	
	Skepticism	-0.419	-0.270	**0.808**
CROSS LOADS	CET1	-0.331	-0.197	0.701
	CET2	-0.319	-0.196	0.854
	CET3	-0.359	-0.254	0.859
	IC1	0.598	0.843	-0.259
	IC2	0.453	0.841	-0.202
	IC3	0.561	0.896	-0.228
	VP1	0.651	0.400	-0.240
	VP12	0.669	0.535	-0.188
	VP14	0.699	0.598	-0.237
	VP15	0.750	0.528	-0.294
	VP2	0.742	0.420	-0.317
	VP3	0.745	0.337	-0.398
	VP4	0.728	0.331	-0.419
	VP5	0.748	0.438	-0.398
	VP6	0.670	0.468	-0.228
	VP7	0.691	0.370	-0.258

Source: Authors own creation (2024)

Once the discriminant validity was checked, the adjustments of the measurement model were completed, and the next step was to analyze the structural model.

4.3 Evaluating the quality of the model

According to Ringle *et al*. (2014), the first analysis to be performed in this second stage is to evaluate Pearson's coefficients (R^2). The R^2 coefficient evaluates to what extent the independent variables explain the variation of dependent variables. This indicates the quality of the adjusted model. According to Cohen (1988), for the area of social and behavioral sciences, R^2 = 2 percent is classified as a small effect, R^2 =

13 percent as a medium effect, and R^2 = 26 percent as a large effect. Results show that Perceived Value is characterized by an R^2 = 0.175, while Purchase Intention is characterized by an R^2 = 0.400. In addition, the adjusted R^2 for Perceived Value was 0.173, while, for Purchase Intention, it was 0.397.

In the structural model, what can be highlighted is that all the factor loadings, the path coefficients (structural coefficients), and the determination coefficients for each endogenous variable were above the values recommended. The R^2 was high for the purchase intention construct and medium for the perceived value construct. On analyzing the values, it can be seen that skepticism about the exogenous variable accounts for explaining 17.5 percent of the variation in the perceived value of the endogenous variable, while the two variables of skepticism and perceived value account for explaining 40.0 percent of the variation in the variable of purchase intention. The Student's T-test was performed to evaluate the significance of the correlations and regression coefficients. The results are presented in Table 5:

Table 5 – Student's T-statistics, p-value for factor loadings, and path coefficients

(Continued)

Assessed Relationships	Mean	Standard error	T- statistics	p-value
CET1← Skepticism	0.700	0.048	14.495	0.000
CET2 ← Skepticism	0.850	0.025	33.922	0.000
CET3 ← Skepticism	0.857	0.024	35.751	0.000
IC1 ←Purchase intention	0.843	0.015	55.572	0.000
IC2 ← Purchase Intention	0.840	0.022	38.564	0.000
IC3 ←Purchase Intention	0.896	0.011	84.214	0.000
VP1 ← Perceived Value	0.651	0.039	16.913	0.000
VP12 ← Perceived Value	0.672	0.044	15.364	0.000
VP14 ←Perceived Value	0.701	0.030	23.575	0.000
VP15 ← Perceived Value	0.752	0.026	28.740	0.000
VP2 ← Perceived Value	0.741	0.023	32.133	0.000
VP3 ←Perceived Value	0.744	0.028	26.619	0.000
VP4 ← Perceived Value	0.728	0.027	26.488	0.000

Table 5 – Student's T-statistics, p-value for factor loadings, and path coefficients

(Conclusion)

Assessed Relationships	Mean	Standard error	T- statistics	p-value
VP5 ← Perceived Value	0.748	0.024	30.619	0.000
VP6 ←Perceived Value	0.670	0.028	24.202	0.000
VP7 ← Perceived Value	0.694	0.036	19.297	0.000
Skepticism → Purchase Intention	-0.006	0.040	0.149	0.881
Skepticism→ Perceived Value	-0.420	0.046	9.052	0.000
Perceived Value→ Purchase Intention	0.634	0.037	16.925	0.000

Source: Authors own creation (2024)

In Table 5, the values in the "T-statistics" column show whether the path coefficients and factor loadings are significant, i.e., whether the correlations and regression coefficients are significant. For the path coefficients and the factor loadings to be significant, according to Hair *et al*. (2021), they should be T>1.96 for a p-value < 0.05. Thus, considering the results presented in Table 5, it is highlighted that all correlations and regression coefficients were significant, with the exception made by the relationship between skepticism and purchase intention, which, presents a T< 1.96 and a p-value > 0.05.

The next step consisted of assessing two other quality indicators of the adjusted model: the predictive validity (Q^2) and the effect size or Cohen indicator (f^2). Predictive validity assesses the accuracy of the adjusted model, i.e., it assesses how close the adjusted model is to reality. In this case, a value of $Q^2 > 0$ was used as the acceptance criterion; a perfect model will have a value of $Q^2 = 1$. The effect size instead evaluates the extent to which a construct is useful for adjusting the model. Thus, f^2 values of 0.02, 0.15, and 0.35 are considered respectively small, medium, and large effects (Hair *et al*., 2021). Table 6 presents the test of the research hypothesis and shows, *inter alia,* that the Q^2 values, as well as the f^2 values, indicate that the model is accurate and that the constructs are important for its adjustment:

Table 6 – Hypothesis testing

H	Relationship	Structural coefficients (β)	T-Stats.	p-value	Conclusion	Q^2	f^2
H1	Skepticism → Purchase Intention	-0.006	0.149	0.881	**Not supported**	0.000	0.000
H2	Skepticism→ Perceived value	-0.419	9.052	0.000	Supported	0.087	0.212
H3	Perceived Value→ Purchase Intention	0.630	16.925	0.000	Supported	0.285	0.545

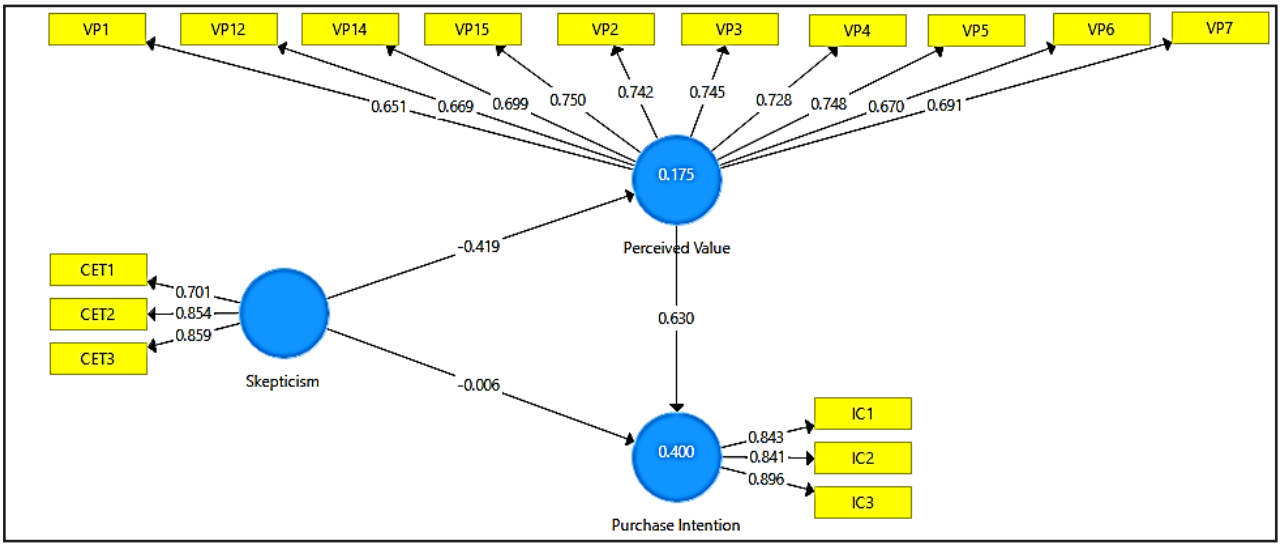
Source: Authors own creation (2024)

According to Table 6, hypothesis H1 was not supported by the data analyzed in this research, as there was a lack of statistical significance in the relationship between organic food skepticism and purchase intention (T<1.96, p-value >0.05). Therefore, there is no evidence of a linear relationship between these two constructs. In contrast, hypothesis H2 was supported (T>1.96, p-value <0.05), showing that skepticism is negatively related to perceived value. Finally, hypothesis H3 was also supported by the data (T>1.96, p-value <0.05), providing evidence of a positive relationship between perceived value and purchase intention of organic food. Note that, except for the relationship between skepticism and purchase intention, which was not supported, the other two hypotheses resulted in $Q^2 > 0$ e $f^2 > 0.15$.

4.4 Discussion

This study proposes and examines a conceptual model to understand how skepticism about organic food affects the perceived value of and the intention to purchase organic food. The conceptual model is shown in Figure 1 below.

Figure 1 – Purified structural model



Source: Research data (2024)

In the structural model (Figure 1), what can be highlighted is that all the factor loadings, path coefficients, and determination coefficients for each endogenous variable are above the values recommended. Moreover, the R2 assumes a high value for the purchase intention construct and a medium one for the perceived value construct. It can be stated also that the exogenous variable (skepticism) accounts for 17.5 percent of the variation in the endogenous variable (perceived value), while the two variables of skepticism and perceived value account for 40.0 percent of the variation in the variable of purchase intention.

Three hypotheses were formulated. Regarding hypothesis H1 (skepticism towards organic product labeling has a negative impact on the purchase intention of organic food), the results reveal that this had no empirical support (β = -0.006) and had no statistical relevance ($T < 1.96$ and p-value > 0.05) (Hair et al., 2021), thus indicating the lack of evidence of a relationship between skepticism about organic food and the purchase intention.

This outcome is in line with the findings of Diógenes et al. (2017) and Da Silva et al., (2015) who in their studies have found that skepticism about advertising information does not influence the intention to purchase green products. Conversely, this result

contradicts the findings of Teng & Wang (2015), Morel and Pruyn (2003), and Chang and Cheng (2015), according to whom there is a significantly negative relationship between the two constructs.

A possible explanation can be found in the profile of respondents in this research, who predominantly were between 26 and 35 years old, with a high level of education, and who may even be skeptical about organic products. However, this neither affects the possibility of planning a purchase of organic food nor the possibility of future willingness to buy. This result can be explained by the fact that skepticism is not a definitive but a temporary state of mind of the consumer (Patel et al., 2017; Vanhamme and Grobben, 2009), which, therefore, can change over time. In addition, unstudied sociodemographic and behavioral variables, such as family income and consumption habits, can also justify these results, since they may moderate the relationship between skepticism about organic food and purchase intention. Higher family income, for instance, can mitigate the effect of skepticism on purchase intention, as families with greater disposable income are more likely to afford to pay for higher-priced organic or green products regularly (Akdoğan & Durmaz, 2023).

Regarding hypothesis H2 (skepticism towards organic product labeling has a negative impact on the perceived value of organic food), results in Table 6 and Figure 1 reveal empirical support for the hypothesis ($\beta = -0.419$) and it had statistical relevance ($T > 1.96$ and p-value < 0.05) so that skepticism about organic food has a negative effect on its perceived value. This finding converges directly with the studies on consumer behavior conducted by Luo et al. (2020), according to whom consumer skepticism about a product or service is closely associated with its perceived value, and, corroborates indirectly the findings of Grunert et al. (2014), as they affirm that the lack of confidence in the claims contained in the labels of organic food, determines a decrease in the perceived value of these products.

Regarding hypothesis H3 (perceived value positively affects the intention to purchase organic food), the results also reveal that there was empirical support ($\beta =$

0.630), and this had statistical relevance (T > 1.96 and p-value < 0.05) therefore decreeing the evidence of a positive relationship between the perceived value of organic food and the intention to purchase it. This result converges with the studies of Watanabe et al. (2020) and Persaud et al. (2017) who identified the impact of perceived value on the purchase intention of consumers, and with the findings provided by the studies of Zhao et al. (2018), who reinforce that consumer perception of the benefit brought by the product, which is linked to the concept of perceived value, is fundamental to the intention to purchase ecologically correct products.

The consumers' perception of the product's value, triggers, therefore, an emotional response that influences their intention to purchase it (Chang and Dibb, 2012). This perception of value is not only linked to price concerns, but also to non-tangible issues, such as positive emotional sensations that the product awakens in the consumer, or sensations of social acceptance that the consumer receives in a certain group due to the choice made.

Our results point out that skepticism towards organic food, defined by the value of R2 explains only 17.5 percent of the variation in the perceived value, which means that many other independent variables can explain its variance (Ringle et al., 2014). Concerning the perceived value construct, the highest factorial load occurred in the variable VP15 (0.750) (Consuming organic food makes me feel relaxed about using), which is linked to emotional value, i.e., the positive emotional aspects that the product generates in the consumer. The sensations of well-being and satisfaction that organic food produces in the consumer are, then, the factors that most add value to organic food for the respondents in the sample studied.

Regarding the purchase intention construct, there was an R2 of 40 percent which, according to Cohen (1998), represents a large effect. This means that skepticism and perceived value account for explaining most of the variation in purchase intention (Ringle et al., 2014), generating on the one hand resistance, and, on the other, a positive

evaluation of the value of the product that influences the current or future purchase intention (Chang and Dibb, 2012).

Finally, Table 6 also presents the effect size f2 for both supported relationships (hypotheses H2 and H3). It is evidenced that the effect size is medium for the skepticism→perceived value relationship (0.212) and is high for the perceived value→purchase intention relationship (0.545) (Hair et al., 2021). As a result, we can infer that the impact of skepticism on perceived value is of medium magnitude, while the impact of perceived value on purchase intention can be considered of high magnitude. The implication of this finding remains in the force of the initiatives performed to increase the perceived value of organic products since this has a decisive impact on the purchase intention.

5 CONCLUSIONS

Although the market for organic foods is gaining momentum worldwide, particularly in emerging economies, there is still a consistent proportion of consumers who are skeptical of claims about these products. In light of this, the present study aimed to evaluate the influence of consumer skepticism about organic food on perceived value and purchase intention in a sample of consumers from the state of Paraiba, Brazil.

There was evidence of a negative relationship between skepticism and perceived value and a positive relationship between the perceived value of organic food and the intention to purchase it. The negative relationship between skepticism and purchase intention, in contrast, was not confirmed by data analysis.

The findings of this study provide valuable suggestions and contributions for academics, marketers, retailers, and policymakers, explained as follows.

THEORETICAL CONTRIBUTIONS

Although several studies address the influence of consumer skepticism on perceived value and purchase intention, these studies have been carried out from the perspective of green products in general. Our research can be considered one of the first to address and confirm the relationship between consumer skepticism, perceived value, and purchase intention considering the sphere of organic food specifically.

From a theoretical perspective, our study emphasizes the influence of skepticism on the perceived value of organic food pointing to the influence of contextual factors, such as consumer skepticism, on behavior. Furthermore, the suggestion of paying more attention to the credibility of organic food labels relates to the Signaling Theory, according to which organic food labels act as informational cues of the quality of the unobservable, thereby reducing levels of perceived risk and facilitating consumer decision-making. Considering this, theoretically, the study provides an advance in the area of knowledge about consumer behavior related to the organic food sphere. Therefore, it can enrich the literature and provide an advance in the analysis of this theme in an emerging economy like the Brazilian one.

PRACTICAL, MANAGERIAL, AND SOCIAL IMPLICATIONS

The study provides several practical and social contributions. It clarifies skepticism towards organic food as a factor that truly affects the perceived value and consequently the intention to purchase these products. This information can be used to aid in formulating public policies, as well as to support marketing managers and retailers in developing strategies aiming at reverting or attenuating consumer skepticism towards organic food.

Marketers and retailers can incorporate rational aspects, such as the social and health benefits of organic products, into their communication strategies, providing the reference community with information on the environmental and socio-economic

impacts of buying organic food and providing details as to how these products contribute to good health (i.e., food safety, natural content, nutritional benefits). Diversified channels, such as social media, TV, printed and online media, websites, and published research, could be used to enhance the consumers' knowledge of the benefits provided by organic food. On this subject, to communicate more relevant product details and additional information, marketers can leverage the opportunity offered by QR codes and augmented reality technologies, thereby enabling a more transparent view of the supply chain that gave rise to organic food, thus providing more reliability to the claims on the labels of organic food.

Moreover, the information provided on the labels and through the communication media must be objective and valuable to the consumer. Considering that skeptical consumers can change their minds when faced with sufficient evidence (Patel et al., 2017; Vanhamme and Grobben, 2009; Lins et al., 2024), it would be interesting to provide experiential marketing, e.g. a tasting point - besides the shelves where these products are stocked - focusing on allowing customers to perceive the different quality of organic food from conventional processed products. Thus, managers can enrich the positive perception of consumers that organic food is free from pesticides and fertilizers, and consequently revert or attenuate the negative skepticism effect on the perceived value of these products. Also, marketing managers and retailers can use the so-called "star power" of celebrities, e.g., famous movie stars, sports personalities or TV chefs as a marketing strategy aiming at reducing consumer skepticism to trigger a positive attitude of consumers toward the value of organic food.

The attenuation of the consumer's skepticism works as a trigger for the perceived value, and consequently, for the intention to purchase organic food. This allows the managers to create superior value for customers, and consequently to locate the firm in a sustainable competitive advantage position (Pratono, Darmasetiawan, Yudiarso, & Jeong, 2019; Zhang et al., 2024). To enhance the positive perception of consumers towards organic food, managers need also to expand the number of places in which

organic products are sold and the range of products offered. While some consumers have many options, others have difficulty finding organic food.

By understanding skepticism, brands can educate consumers, build trust, refine their value propositions, and differentiate their products. Effective communication strategies can showcase quality and authenticity while justifying premium prices. Targeted marketing to specific segments, encouraging positive word-of-mouth, and fostering long-term loyalty become possible by fostering a nuanced understanding of skepticism and perceived value. Ultimately, this research can empower brands to tailor their approaches, enhance consumer intention to buy, and solidify their position in the competitive organic food market.

It should also be emphasized that reverting the skepticism effect towards organic food is not only a marketing task but also a public health and sustainability question. For this reason, it is recommended that public policymakers promote information campaigns and widely disseminate the benefits of consuming organic products, related to improving the quality of people's lives and reducing the environmental footprint. In this regard, consumer education programs could be created to clarify the potential benefits of organic food consumption.

In addition, policymakers can also propose regulatory policies and actions aiming at reducing consumer skepticism toward organic food, such as inspecting farms that introduce foods declared to be organic on the market, applying penalties on producers and firms that use false or misleading organic labels, and introducing standardized appropriate and reliable organic food labeling instead of self-declared claims. This can contribute to protecting the credibility of organic labels, influencing public attitudes, and enhancing the perceived value to consumers of organic food.

This study has several limitations. The first and most important is the sample population, which was chosen due to convenience, and therefore this does not let the results be generalized. In addition, the age distribution of the sample population

reveals that most respondents belong to the 26-45 age group, which means that the sample used has a bias towards young and early middle-aged adults.

As a suggestion for future research, it is proposed to validate the model proposed in this study to compare the findings and/or to use other methodologies and frameworks of analysis. It is suggested a random sample be used, in line with increasing the number and diversity of respondents. It is also suggested that variables be studied that may exert effects on the relationship between skepticism and the perceived value of organic food, such as income level and consumption habits.

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2. Development of hypotheses or research questions (empirical studies)	√	√
3. Development of theoretical propositions (theoretical work)	√	√
4. Theoretical foundation / Literature review	√	√
5. Definition of methodological procedures	√	√
6. Data collection	√	√
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8. Analysis and interpretation of data	√	√
9. Critical revision of the manuscript	√	√
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The authors have stated that there is no conflict of interest.

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