EFFECTS OF ORGANIC FOOD PERCEIVED VALUES ON CONSUMERS’ ATTITUDE AND BEHAVIOR IN DEVELOPING COUNTRY: MODERATING ROLE OF PRICE SENSITIVITY

Zohra Ghali -Zinoubi

College of Administrative and Financial Sciences, Saudi Electronic University (SEU). KSA; Higher Institute of Management. University of Tunis. Tunisia; Research Laboratory URCC, FSEG, Tunis

Corresponding author’s e-mail: zohragh@yahoo.fr

This study aims to examine the relationships between organic food-related value, attitude, and buying behaviour based on the value-attitude-behaviour (VAB) cognitive hierarchal model. Moreover, it intends to test the moderating effect of price sensitivity on relationship attitude behaviour. Thus, we have conducted a quantitative study involving 610 organic food consumers in a developing country such as Tunisia. The present study used structural equation modelling to test the research hypotheses. The findings support the cognitive model (VAB), which theorises hierarchical flow from value to attitude to behaviour while highlighting the full mediating role of attitude. Considering the relationship attitude-behaviour, price sensitivity plays a significantly negative moderating role. This study is one of the few testing the VAB in the context of organic consumption. Moreover, it is the first to conduct such investigations in a developing country. Therefore, this study contributes toward filling the knowledge gap between developed and developing countries relative to research on consumer behaviour toward organic foods. These findings may help organic food retailers in developing countries invent useful strategies for boosting organic food consumption.

Keywords: Organic food, value-Attitude-behavior model, PERVAL scale, moderating role, price sensitivity, developing country.

INTRODUCTION

Over the last decade, consumers have become increasingly aware of the impact of their daily consumption on their health and environment (De Toni et al., 2017; Ghali, 2020). Therefore, organic food has become more popular in the daily purchases of consumers seeking healthier, safer, and higher food product quality (Popa et al., 2018; Aslam et al., 2020). Although the situation differs from one country to another, organic food products are held by consumers as better alternatives to conventional foods (Suciu et al., 2018; Shareef, 2020). This is because they are healthier, traceable, pure, and wholesome (Ditlevsen et al., 2019). Moreover, organic food consumption preserves the environment (Chen, 2009; Kareklas et al., 2014; Cheema et al., 2020) and favours the social-status value for individuals (Costa et al., 2014). Organic food demand has rapidly expanded in developed countries in parallel with the expansion of academic studies in this field (Ditlevsen et al., 2019; Sarwar et al., 2020). However, the organic market remains at the nascent stage in most developing countries, and research in this area seems limited (Asif et al., 2018; Peter et al., 2016; Wang et al., 2019).

According to a recent study by Willer and Lernoud (2019), which presented the latest available data on organic agriculture, organic food production has expanded rapidly worldwide. However, most organic food is consumed in developed economies in North America and Europe (almost 90% of total organic food consumption). These statistics also demonstrated that most organic food producers, over 87%, are found in developing countries (Willer and Lernoud, 2019, p.74). This does not reflect the consumption level in these countries, which is over 10% of the total organic food consumption. This percentage does not exceed 0.1 in Africa (Willer and Lernoud, 2019, p.70). The gap between the organic consumption and production level in most developing countries can be explained by the strategy of mass export of organic food used by some governments, especially in Africa, for reducing the trade deficit (Willer and Lernoud, 2019). This strategy has a significant influence on domestic consumption, especially on the availability and affordability of organic food (Yadav, 2016). Hence, high price of organic precludes many people from purchasing it (Rödiger et al., 2016; Talwar et al., 2021; Wang et al., 2019).

Extant literature reveals that several studies have examined the relationships between organic food perceived values and consumer attitudes and behavioural intentions (Jones et al., 2006; De Toni et al., 2017; Lee and Yun, 2015). Most of these studies have focused on the hedonic and utilitarian values of organic food. (Ghali, 2020; Lee and Yun, 2015; Lu and Chi, 2018; Ruy et al., 2010). Additional research works have studied the price sensitivity impact as a predictor on organic
food consumer behaviour like Ghali-Zinoubi and Toukabri (2019). However, this study is one of the few to test the cognitive hierarchal model (VAB) of Homer and Kahle (1988) in the organic consumption context in a developing market (Tunisia). Moreover, it is the first of its kind to extend the model by examining the moderating role of price sensitivity, particularly in the developing economics context. In addition, it is among the rare studies using the four-dimensional scale of value of Sweeney and Soutar (2001), termed PERVAL, to study the perceived values of organic food in a developing market. This study’s findings will provide significant insights for retailers and producers of organic food in developing countries to enhance the consumption of their products while focusing on their several perceived values.

The remainder of the current research paper is structured as follows: we begin by the study of the conceptual framework; next, we describes the methodology of the research. Subsequently, we present the results of the study and we discuss them. The last section includes implications, limitations, and directions for future researches.

CONCEPTUAL FRAMEWORK

**Organic food products and its values:** In order for a food product to be certified as organic, it needs to meet a number of standards (Michaelidou and Hassan, 2008). Generally, it must be produced and manufactured without the use of man-made fertilizers, pesticides, growth regulators and livestock feed additives (Ghali-Zinoubi, 2020; Talwar et al., 2021). The extant literature (Cosa et al., 2014; De Toni et al., 2017; Ghali, 2020; Hauser et al., 2013) distinguishes several organic food related values. In the context of this study, the focus is mainly on four values: functional, individual, social, and financial. The choice of this four-dimensional scale of perceived value (called PERVAL) is in accordance with the insights of Sweeney and Soutar (2001), Smith and Colgate (2007), and Seegebarth et al., (2016), who considered these dimensions as being most efficient in influencing purchase attitude and behavior.

First, **functional value** of organic food product describes the attributes of nutrition and health related products (Popa et al., 2018; Ditlvensen et al., 2019; Kareklas et al., 2014). Thus, they are often perceived as being more environmentally-friendly, safer and healthier than their conventional counterparts (Suciu et al., 2018; Zafar and Ping, 2020). Second, **individual perceived value** of organic food associates the consumers’ increasing environmental concerns with the organic-related associations (De Toni et al., 2017). Yet, organic consumption has recently been considered as a lifestyle and an expression of the consumers’ attitude towards their health and their environment (Costa et al., 2014; Kiatkawsin and Han, 2017). Third, **social value** is considered by Sweeney and Soutar et al., (2001) as main motive of environment-friendly behavior. It favors the social norms of consumer. Thus, through their purchasing behavior, consumers aim to show their social belonging, their interests in their reference groups, and their society (Costa et al., 2014). As food products are usually consumed in public spaces, consumers prefer to purchase foods, which favor their social identity and their status in their own social groups (Seegebarth et al., 2016). Organic food is consumed, then, to show the social status and the environmental interests of the consumer. Fourth, **financial value** of a product is often conceptualized as the value received for the price paid or as value for money (Sweeney and Soutar, 2001). Previous studies showed that the price of products is, generally, function of their production and commercialization costs, their reputation and quality (Marian et al., 2014). Taking the consumers’ associations with organic food into account, it can be understood that price is a factor of high quality (healthy, nutritious, safe, environment-friendly production) and an expression of the consumers’ desires to do something good for themselves (Smith and Colgate, 2007).

**Value-Attitude-Behavior hierarchy (VAB):** Homer and Kahle (1988) initially proposed a cognitive hierarchy called VAB hierarchy. The latter theorizes a hierarchical flow from Value (as more abstract cognitions) to Attitude (as mid-range cognitions) to Behavior (as particular action). In other words, this framework investigates the flow from value to behavior hypothesized to be fully mediated by attitude. Hence, for this model, there are no direct effects of value on behavior - derived from the theory of planned behavior (Hauser et al., 2013). According to VAB cognitive model, which is tested in the context of natural food shopping, value constitutes a key concept used by the consumer when making a purchase decision. It is a fundamental standard and a desirable criterion driving the individuals’ decision-making process (Han et al., 2019). From a consumer’s perspective, customer value is what they ‘get’ (benefits) in relation to what they have to ‘give up’ (costs or sacrifices). This value does not generally have a unique dimension (Seegebarth et al., 2016). In the context of the present study, we consider the four-dimensional scale of Sweeney and Soutar (2001) that we have previously exposed. Another element of the VAB framework is the attitude. It is described as an evaluative judgment towards goods or services, which expresses enduring favorable or unfavorable assessments and affective feelings guiding action tendencies towards those goods or services (Ajzen, 1991). In keeping with the research stream on the relationships among variables within the VAB framework, the present research work considered that value, through its different dimensions above mentioned, influences attitude, which in turn affects buying behavior (Ajzen and Fishbein, 1977). Hence, attitude fully mediates the relationships between value and behavior. Accordingly, we propose the following research hypotheses: 

**H1.** Organic food perceived values positively influence consumers’ attitude.
Organic Food Perceived Values in Developing Country

H1a. Functional perceived value of organic foods positively influences consumers’ attitude.
H1b. Individual perceived value of organic foods positively influences consumers’ attitude.
H1c. Social perceived value of organic foods positively influences consumers’ attitude.
H1d. Financial perceived value of organic foods positively influences consumers’ attitude.
H2. Attitude towards organic food positively influences consumers’ buying behavior.
H3. The attitude fully mediates the relationship between organic food perceived values and buying behavior.
H3a. Consumers’ attitude fully mediates the relationship between functional perceived value and buying behavior.
H3b. Consumers’ attitude fully mediates the relationship between individual perceived value and buying behavior.
H3c. Consumers’ attitude fully mediates the relationship between social perceived value and buying behavior.
H3d. Consumers’ attitude fully mediates the relationship between financial perceived value and buying behavior.

Moderating role of price sensitivity: The products’ price is a main driver of their being purchased (Marian et al., 2014; Rödiger and Hamm, 2015). Generally, the consumers have individual and internal references, which allow them to define the acceptability thresholds (Rödiger et al., 2016). Organic foods are usually premium priced in the most countries (Teng and Lu, 2016; Michaelidou and Hassan, 2008; Ghali, 2020). Therefore, the price is considered to be a barrier that hinds the purchase of organic food products (Marian et al., 2014). This is because the consumer is sensitive to prices of products they have to pay (Goldsmith et al., 2010; Ghali-Zinoubi and Toukabri, 2019; Stock, 2005). In the same vein, Lee et al., (2015) stated that consumers’ sensitivity to price precludes them from paying premium price to buy organic coffee. According to Low et al., (2013, p.3), consumers’ price sensitivity reflects ‘the change of consumer demand resulting from the rise or fall of price, akin to price elasticity in economics’. It is also the extent to which consumers perceive and react to changes or differences in products’ prices (Rödiger et al., 2016). According to Ghali-Zinoubi and Toukabri (2019), the more sensitive toward organic products’ prices consumers are, the more unable they are to purchase the products since these are more expensive than conventional foods. In the same vein, Goldsmith et al., (2010) stated that it has been found that there is a negative correlation between purchasing behavior and sensitivity to products price. This correlation is more important in the case of organic food product due to its premium price compared with conventional counterparts (Lee et al., 2015; Peter et al., 2016). Furthermore, this sensitivity is more expressed in the developing countries, where the consumer has, generally, limited purchasing power (Marian et al., 2014; Ghali-Zinoubi and Toukabri, 2019). Accordingly, the fourth hypothesis can be as follow:

H4. Price sensitivity acts as a moderator on the relationship between consumer attitude toward organic food and buying behavior.

MATERIALS AND METHODS

Data collection: An empirical study was conducted outside seven supermarkets in Tunisia’s three cities (Tunis, Nabeul, and Gabes) selling organic foods. Data were collected via face-to-face survey. Although the convenience sampling results in general may limit the generalisability and representativeness of the findings (Yadav, 2016), we used it in this study for the following reasons. First, this method is speedy, easy, and cost effective. Second, it has been proven to generate reliable research findings in previous studies in the organic food context (Ghali, 2020; Ghali-Zinoubi and Toukabri, 2019). The respondents were briefed about the aim of the survey, the questionnaires, and the procedure of giving responses. Before administering the questionnaire, a filter question was asked to determine whether the customers of this sample group have basic knowledge of organic food benefits, are over the age of 20, and are able decide to buy organic foods. If not, the questionnaire was not administered (Teng and Lu, 2016). The survey was stretched over 10 weeks from May to August 2019. During this period, 653 questionnaires were administered in total. All respondents willingly provided their responses. However, inappropriate or incomplete responses (where all the answers were identical) were eliminated. Considering these criteria, only 610 questionnaires were considered.

Sample proprieties: Most responses were collected from Tunis, the capital and the largest city of Tunisia (67%). Almost 22% of the responses were collected from Nabeul city, and the rest were collected from Gabes city. Approximately half the population was male (47.7%) and the rest female (52.30%). This female-male equality concerning the purchase of organic food in the Tunisian market was already confirmed by Ghali-Zinoubi and Toukabri (2019). The majority (82%) of individuals were in the age group between 20 and 60 years, which is generally the active population. Most respondents (86%) had at least graduate education level. Individuals with educational qualifications less than graduate expressed their unwillingness to participate in the study. Therefore, their representation was not important in the survey. The surveyed individuals were the main purchasers of organic foods in their households (85%), which were generally medium-sized (composed of three to five members). Finally, most respondents (73%) had above medium monthly incomes (from 700 to 2000 Tunisian dinars), relative to their levels of graduation. These sample’s properties are summarized in Table 1.

Measures: In order to measure the conceptual framework constructs, multi-item scales were used. All measurement
scales were adopted from previous studies and adapted to the context of this research work. For the independent variables, perceived values, we used the four-dimensional scale of Sweeney and Soutar (2001) called PERVAL. This scale is composed of four items for the first dimension (functional value), five items for the second dimension (individual value), four items for the third dimension (social value), and four items for the fourth dimension (financial value). These different items are provided in Table 2.

For the dependent variable attitude, we used the three-item scale of Cheng (2009), which was adapted to organic food context by Singh and Verma (2017). For the second dependent variable, buying behavior construct, the measurement scale used was that of Lai and Cheng (2016), which composed of four items. The moderator variable price sensitivity was measured with five-item scale derived from Stock (2005). These measurement items are provided in Table 3.

Each of the measurement indicators for all variables was rated according to the 5-point Likert scale, extending from 1 (strongly disagree) to 5 (strongly agree).

The Structural Equation Modeling (SEM) method through the software LISREL was used in this study in order to examine the measurement model as well as the causal structural model (Roussel et al., 2002).

---

### Table 1. Sample properties (N=610)

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>%</th>
<th>Main household food purchaser</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>291</td>
<td>47.70</td>
<td>Myself</td>
<td>223</td>
<td>36.55</td>
</tr>
<tr>
<td>Female</td>
<td>319</td>
<td>52.30</td>
<td>Other members</td>
<td>106</td>
<td>17.38</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td>Both</td>
<td>281</td>
<td>46.07</td>
</tr>
<tr>
<td>20-30</td>
<td>154</td>
<td>25.24</td>
<td>Household size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31-45</td>
<td>178</td>
<td>29.19</td>
<td>1</td>
<td>084</td>
<td>13.78</td>
</tr>
<tr>
<td>46-60</td>
<td>169</td>
<td>27.70</td>
<td>2</td>
<td>106</td>
<td>17.37</td>
</tr>
<tr>
<td>More than 60</td>
<td>109</td>
<td>17.87</td>
<td>3</td>
<td>148</td>
<td>24.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4-5</td>
<td>154</td>
<td>25.24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>More than 5</td>
<td>118</td>
<td>19.35</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td>Monthly income (TD)(^{(1)})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>088</td>
<td>14.42</td>
<td>Low income (Less than 700)</td>
<td>079</td>
<td>12.95</td>
</tr>
<tr>
<td>Graduate</td>
<td>193</td>
<td>31.64</td>
<td>Medium income (from 701 to 1300)</td>
<td>232</td>
<td>38.03</td>
</tr>
<tr>
<td>Post-graduate</td>
<td>179</td>
<td>29.34</td>
<td>High income (from 1301 to 2000)</td>
<td>212</td>
<td>34.75</td>
</tr>
<tr>
<td>Professional</td>
<td>150</td>
<td>24.60</td>
<td>Very high income (more than 2001)</td>
<td>087</td>
<td>14.27</td>
</tr>
</tbody>
</table>

\(^{(1)}\)TD= Tunisian Dinar. 1TD= 0.37 US $ in January 2021.

### Table 2. Confirmatory factor analyses properties for independent variables

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor loading</th>
<th>t-value</th>
<th>p</th>
<th>Cronbach’s α</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FV1 OF has consistent quality</td>
<td>0.738</td>
<td>12.435</td>
<td>***</td>
<td>0.914</td>
<td>0.912</td>
<td>0.752</td>
</tr>
<tr>
<td>FV2 OF is well made</td>
<td>0.626</td>
<td>14.562</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EV3 OF has an acceptable standard of quality</td>
<td>0.833</td>
<td>18.423</td>
<td>***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EV4 OF is of consistent quality</td>
<td>0.741</td>
<td>15.321</td>
<td>***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV1 OF is something that I would enjoy</td>
<td>0.889</td>
<td>18.246</td>
<td>***</td>
<td>0.743</td>
<td>0.781</td>
<td>0.672</td>
</tr>
<tr>
<td>IV2 OF is enticing to me</td>
<td>0.632</td>
<td>19.452</td>
<td>***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV3 OF is something that I would feel comfortable using</td>
<td>0.759</td>
<td>21.427</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV4 OF makes me feel good</td>
<td>0.617</td>
<td>19.431</td>
<td>***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV5 OF gives me pleasure</td>
<td>0.756</td>
<td>16.329</td>
<td>***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SV1 OF helps me to feel accepted by others</td>
<td>0.725</td>
<td>12.456</td>
<td>***</td>
<td>0.899</td>
<td>0.896</td>
<td>0.698</td>
</tr>
<tr>
<td>SV2 OF improves the way I am perceived</td>
<td>0.599</td>
<td>26.419</td>
<td>***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SV3 OF makes a good impression on other people</td>
<td>0.706</td>
<td>16.427</td>
<td>***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SV4 OF gives me social approval</td>
<td>0.643</td>
<td>15.732</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FiV1 OF is not reasonably priced (R)</td>
<td>0.652</td>
<td>12.547</td>
<td>**</td>
<td>0.863</td>
<td>0.866</td>
<td>0.782</td>
</tr>
<tr>
<td>FiV2 OF offers good value for money</td>
<td>-0.607</td>
<td>-7.673</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FiV3 OF is a good product for the price</td>
<td>-0.695</td>
<td>-14.518</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FiV4 OF would be economical</td>
<td>-0.601</td>
<td>-9.333</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(p < 0.001; \, \*p < 0.005; \, N =610.\)
Organic Food Perceived Values in Developing Country

RESULTS

Measurement model: A Confirmatory Factor Analysis (CFA) was used to examine the overall quality of the measurement model and to validate the model constructs. According to Bagozzi and Yi (1988), the standard factor loadings should be bounded between 0.50 and 0.95 to allow the deduction of the fit goodness. The Composite Reliability (CR) and the average variance extracted (AVE) were used. The acceptable threshold values of these two indicators should be respectively above of 0.7, and 0.5 based on the recommendation of Fornell and Larcker (1981).

The confirmatory factor results for independent and dependent variables are presented respectively in Table 2 and Table 3. All factor loadings for all variables are superior to 0.5 (from 0.599 to 0.897) and are statistically significant (p < 0.005). Cronbach’s alpha values are between 0.743 and 0.964. Moreover, all CR values exceed 0.7 (they range from 0.781 to 0.963). This reveals acceptable internal consistency among the items of each construct (Hair et al., 2013). Besides, all AVEs exceed 0.5 (from 0.672 to 0.895), indicating good convergent validity of every construct. Finally, the Student t-test (t) for all constructs exceeds the theoretical value (1.96).

For the discriminate validity, with regards to Fornell and Larcker (1981), it has to compare the AVEs' square root with correlations between constructs through triangular matrix. As shown in Table 4, this condition is confirmed for all constructs. This shows good discriminate validity for every construct of the conceptual model (Hair et al., 2013).

Hypothesis testing: To test the relationships between constructs, Structural Equation Modelling method is used. Path coefficients and related t statistics via the bootstrapping procedure are used to examine the direct relationships between constructs. The path coefficients found indicate that the functional perceived value of organic food products has a significant positive effect (β= 0.458, t-value= 2.333; p<0.001) on consumer attitude. Therefore, H1.a is supported. As for the construct individual perceived value of organic food, it had a positive effect on the consumer attitude (β= 0.259, t-value= 2.753; p<0.001). Therefore, H1.b is supported. The positive relationship between social perceived value and consumer attitude was clearly demonstrated (β= 0.198, t-value= 2.347; p<0.001). Hence, H1.c is supported. The relationship between financial value and consumer attitude is stated in H1.d. The results of the structural model revealed that financial perceived value (β= -0.236, t-value= 1.001; p= 0.08) had a negative and non-significant effect on consumer attitude. Therefore, H1.d is not supported. Regarding the relationship between attitude and organic buying behavior, the results showed that it was significant and positive (β= 0.645, t-value= 3.793; p<0.001). Hence, H2 is supported. The results of hypothesis testing are shown in the Figure 1.

To test the indirect influences of the independent variables (perceive values) through the mediator, bootstrap analyses have been led (Liu et al., 2015). These analyses led us to examine the nature of mediation of consumer attitude and consequently confirm or reject hypotheses H3.a, H3.b; H3.c and H3.d.

Percentile bootstrapping and bias-corrected percentile bootstrapping were performed at a 99% confidence interval with 10,000 bootstrap samples, following the method of Teng and Lu (2016). The confidence interval of lower and upper

Table 3. Confirmatory factor analyses for dependent and moderator variables

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor loading</th>
<th>t-value</th>
<th>p</th>
<th>Cronbach's α</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Att1</td>
<td>I believe organic food is very useful to meet the nutritional needs</td>
<td>0.720</td>
<td>21.439</td>
<td>***</td>
<td>0.954</td>
<td>0.923</td>
</tr>
<tr>
<td>Att2</td>
<td>Organic food products have higher quality than conventional ones</td>
<td>0.897</td>
<td>22.143</td>
<td>***</td>
<td>0.874</td>
<td>0.874</td>
</tr>
<tr>
<td>Att3</td>
<td>I am convinced the consumption of organic food is a reasonable action</td>
<td>0.788</td>
<td>19.667</td>
<td>**</td>
<td>0.797</td>
<td>22.276</td>
</tr>
<tr>
<td>BB1</td>
<td>I always buy foods that contain no or fewer chemical ingredients</td>
<td>0.837</td>
<td>21.432</td>
<td>***</td>
<td>0.775</td>
<td>18.432</td>
</tr>
<tr>
<td>BB2</td>
<td>When I go shopping, I will look for foods with certified organic stamp</td>
<td>0.797</td>
<td>22.276</td>
<td>***</td>
<td>0.806</td>
<td>19.532</td>
</tr>
<tr>
<td>BB3</td>
<td>I always buy organic products especially organic foods</td>
<td>0.775</td>
<td>18.432</td>
<td>***</td>
<td>0.758</td>
<td>18.523</td>
</tr>
<tr>
<td>BB4</td>
<td>I always buy foods that are labelled as environmentally safe</td>
<td>0.758</td>
<td>18.523</td>
<td>**</td>
<td>0.749</td>
<td>19.456</td>
</tr>
<tr>
<td>PS1</td>
<td>I am highly price sensitive</td>
<td>0.658</td>
<td>21.324</td>
<td>***</td>
<td>0.749</td>
<td>19.456</td>
</tr>
<tr>
<td>PS2</td>
<td>Small increases in price will lead me to fewer purchases</td>
<td>0.764</td>
<td>22.146</td>
<td>***</td>
<td>0.964</td>
<td>0.963</td>
</tr>
<tr>
<td>PS3</td>
<td>I think price is the primary reason for choosing the products</td>
<td>0.873</td>
<td>16.734</td>
<td>***</td>
<td>0.964</td>
<td>0.963</td>
</tr>
<tr>
<td>PS4</td>
<td>I enjoy comparing prices</td>
<td>0.749</td>
<td>19.456</td>
<td>***</td>
<td>0.749</td>
<td>19.456</td>
</tr>
<tr>
<td>PS5</td>
<td>I prefer to buy low-cost or discounted items</td>
<td>0.758</td>
<td>18.523</td>
<td>**</td>
<td>0.758</td>
<td>18.523</td>
</tr>
</tbody>
</table>

*p < 0.001; **p < 0.005; N =610.
The findings of bootstrap test indicate that the total effect of functional value on buying behavior (standardized total effect= 0.402 ***; p<0.001) and the indirect effect (standardized indirect effect= 0.387 ***; p<0.001) are significant.

The total effect of individual value on buying behavior (standardized total effect= 0.366 ***; p<0.001) and the indirect effect (standardized indirect effect= 0.335 ***; p<0.001) are also significant. Finally, for the total effect of social value on buying behavior (standardized total effect= 0.382 ***; p<0.001) and the indirect effect (standardized indirect effect= 0.348 ***; p<0.001) are also significant.

Note: Moderator: price sensitivity; *** p<0.001; ** p<0.01; * p<0.05.
**H3d is not supported.** The results of mediation analysis are available in Table 5.

To test the moderating role of price sensitivity, tests of invariances of measurement model as well as structural model were conducted following the method of Liu et al., (2015). For that the whole sample was divided into two sub-samples: high level of price sensitivity (N= 342) and low level of price sensitivity (N=268) by employing a median split procedure. For both groups (high and low sensitivity), the equality between factor loadings was performed. For the two groups of high and low price sensitivity groups, a measurement invariance test was conducted. The fit indices of both constrained and full-metric invariance models are (CFI=0.911; GFI= 0.932; AGFI=0.923; TLI= 0.903). These values are within the acceptable levels and indicate that both models achieve good model fit. Furthermore, the $\Delta \chi^2$ between both models ($\Delta \chi^2 (14) =20.733; p=0.0631$) is insignificant. Therefore, the analytical findings show that full-metric invariance is confirmed and, consequently, invariance test of the two-group structural model can be conducted (Teng and Lu, 2016).

Based on Liu et al., (2015) suggestions, the path between attitude and behavior were set to be equal, and other path coefficients of both high and low price sensitivity groups were calculated. First, $\Delta \chi^2$ between constrained and unconstrained model was examined. As shown in table 6, the findings of invariance test show a significant $\Delta \chi^2$ difference ($\Delta \chi^2 =4.808^\ast; \Delta df= 1; p <0.05$). This indicate a significant moderating role of price sensitivity between attitude and behavior. Second, the findings show that the relationship between attitude and behavior varies significantly across the low price sensitivity consumer groups ($\beta=0.739; t=16.233; p <0.001$) and high price sensitivity consumer groups ($\beta=0.683; t=12.393; p <0.001$). Therefore, **H4 is supported.**

**DISCUSSION**

This study aims to examine the relationships between organic food-related value, attitude, and buying behaviour based on the value-attitude-behaviour (VAB) cognitive hierarchal model. Moreover, it intends to test the moderating effect of price sensitivity on relationship attitude behaviour. The four-dimensional scale of Sweeney and Soutar (2001) termed PERVAL was used to determine the perceived value of organic food.

In sum, the findings showed that only the first three dimensions (functional, individual, and social) have a positive and significant influence on consumer attitude (H1a, H1b, H1c). However, this influence is not similar for all dimensions. These findings are in line with those of Kiatkawis and Han (2017), who considered that food-related values may not have the same influence on consumer attitudes. In the present study, the functional value has the most important influence on consumer attitudes. This could be explained by the high interest given by the Tunisian consumer to the cognitive functions of organic food (high quality, purity, safety, traceability, environmental friendliness). The results mentioned above are similar to those by Ghali-Zinoubi and Toukabri (2019) and Callieris et al. (2016), who considered the Tunisian consumers of organic food products as having broad knowledge on the attributes of this type of food and are aware of the impact of its consumption on their health and their environment. Individual and social values are also confirmed because, organic consumption nowadays is in a broad expansion phase and is becoming a trend and a lifestyle for a growing number of consumers worldwide. These findings are similar to those of Seegebarth et al. (2016). However, financial value has a negative and weak influence on consumer attitude towards organic food (H1d). This finding is contradictory to that of Sweeney and Soutar (2001), who originally created and validated the four-dimensional scale adopted in our study (PERVAL) and that of Seegebarth et al. (2016), who validated this scale in organic consumption. This is because of the difference in the context of the study for all research. While these two studies, from where we inspired our food-values scale, have been created in developed countries (Australia for Sweeney and Soutar, 2001; USA and Germany for Seegebarth et al., 2016), this study was developed in a developing country (Tunisia). Thus, the financial value of organic food may not be based on the consumers’ living standards in every country. This latter is mainly dependent on consumer income. Knowing that more than half the sample interviewed have low or medium income (Table 1), the premium price of organic food is a reason for consumers to not consider it as economically and reasonably priced, which, consequently, inhibits development of a positive attitude toward it.

The relationship between attitude and behavior was found positive and significant. This finding is similar with the theory of reasoned action of Ajzen and Fishbein (1977), the theory of planned behavior of Ajzen (1991) and the VAB cognitive model of Home and Kahle (1988) who modeled the attitude as vital predictor of consumer purchasing behavior. The moderating role of price sensitivity was found to be negative but significant. This result indicates that when the consumer is highly sensitive to organic food price of the relationship between attitude and behaviour will weaken. Basically, the more the consumers are sensitive to the premium price of organic food, the more they are unable to purchase it. These findings are similar to those of Marian et al. (2014), Goldsmith et al. (2010), and Ghali-Zinoubi and Toukabri (2019), who considered the high price of organic foods among the main barriers to the growth of the organic market in developing countries.

**Implications, limits, and directions for future researches:**

From a theoretical perspective, this study is one of the few to test the cognitive hierarchal model (VAB) of Homer and
Kahle (1988) in the organic consumption context in the developing market (Tunisia). Moreover, it is the first of its kind to extend this model by examining the moderating role of price sensitivity, particularly in the developing economy context. Moreover, it is among the few studies to use the four-dimensional measurement scale of value of Sweeney & Soutar (2001) called PERVAL in the context of organic consumption. The findings indicate that in the Tunisian context, the PERVAL scale, which was created and had already been tested in several developed economies, has become three-dimensional. This is because the Tunisian consumer perceives a weak and insignificant financial value of organic food for the reasons previously discussed.

Empirically speaking, the outcome of this research will provide significant insights for producers and retailers of organic food in developing countries, particularly in relation to their marketing and communication strategies. The study findings reveal that functional, individual, and social values of organic food have significant influence on consumer attitudes. Therefore, practitioners in the organic food field should focus on these values to improve consumption of their products. This can be achieved through intensive promotional communication, emphasising the values of superior quality, purity, reliability, and safety of organic foods. Moreover, an aggressive awareness campaign should be organised to make consumers in developing countries more aware of the health and other environment-related benefits from consuming organic food. This is possible through intensifying the presence of this category of products in groceries, supermarkets, and local sales’ points in all regions of the country. Moreover, online organic stores may represent a good opportunity for ensuring proximity of their products and making consumers more familiar with them.

Financial values were found to have weak influence on consumer attitude. Moreover, price sensitivity was found as a significant moderator of the relationship between attitude and behaviour. This is because organic foods prices are perceived by consumers in developing countries to be too expensive compared with their conventional counterparts (Marian et al., 2014). They are essentially consumers that have high price sensitivity to the premiums of organic foods because of their limited purchasing power. To counter this, retailers should determine the basis of the product price and assess conditions for applying discounts. They can also improve their profits by building stronger relationships with their customers. This is possible through the creation and management of personalised loyalty programs such as future discount coupons and membership cards. Moreover, producers may reduce production costs by reducing nonmonetary costs such as using new technologies when reaping, collecting, and squeezing their products. Moreover, governments in developing countries should be active in promoting the consumption of these healthy and nutritious foods. This can be possible via several procedures favouring small organic farmers as follows: lowering taxes on organic production, providing subventions and special funds, aiming to raise organic food awareness, and massive communication marketing strategies mainly addressing healthy eating as marketing education actions. All these procedures and strategies express, on the one hand, policymakers’ willingness to improve domestic organic consumption, and, on the other hand, reflect their interests in protecting the health of their people and preserving the environment.

Despite the significant findings of this study, some limitations suggest paths for future studies. The first limitation is that this study examined organic foods as “homogeneous products” that have similar perceived values. However, extant literature reveals that consumers’ perceived values may differ depending on organic food product categories (Ghali, 2020; Yadav, 2016). Hence, future studies could examine these perceived values of special categories of organic food (organic dairy, organic fruits, etc.). Moreover, future studies could compare shoppers who prefer and do not prefer organic food to understand the different characteristics of these two groups. The second major limitation of this research is adaptation of a measurement scale (PERVAL), originally created and validated in developed economies such as Australia, to measure the perceived values of organic food in developing countries. Further research could develop a measurement scale for organic food perceived values and test its reliability and validity in a developing market. The third limitation of this study is in using a convenience sampling approach for data collection. This approach has been successfully used to collect data in previous studies (Ghali, 2020; Ryu et al., 2010). However, it did not allow for generalising the results since the data collected using the convenience sampling approach might not be representative of the population (Ryu et al., 2010). Furthermore, the test of the hypotheses was conducted in a single developing country. Future studies could be conducted in other developing countries to increase the representativeness of the results. In this context, cross-cultural studies may provide new insights into the perceived values of organic food.

REFERENCES


Aslam, W., R.S. Noor, S. Ullah and H. Chen. 2020. Comparative economic analysis of crop yield under


Ditlevsen, K., P. Sandoe, and J. Lassen. 2019. Healthy food is nutritious, but organic food is healthy because it is pure: The negotiation of healthy food choices by Danish consumers of organic food. Fo. Qual. Pref.71:46-53.


[Received 07 Oct 2019; Accepted 01 Mar. 2021; Published (online) 25 Jun 2021]