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

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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; Ditlevsen *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.

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 Toukabi (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

Table 1. Sample properties (N=610)

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

[1] TD= Tunisian Dinar. 1TD= 0.37 US $ in January 2021.

Table 2. Confirmatory factor analyses properties for independent variables

Items		Factor loading	t-value	p	Cronbach's α	CR	AVE
FV1	OF has consistent quality	0.738	12.435	***	0.914	0.912	0.752
FV2	OF is well made	0.626	14.562	**			
EV3	OF has an acceptable standard of quality	0.833	18.423	***			
FV4	OF is of consistent quality	0.741	15.321	***			
IV1	OF is something that I would enjoy	0.889	18.246	***	0.743	0.781	0.672
IV2	OF is enticing to me	0.632	19.452	***			
IV3	OF is something that I would feel comfortable using	0.759	21.427	**			
IV4	OF makes me feel good	0.617	19.431	***			
IV5	OF gives me pleasure	0.756	16.329	***			
SV1	OF helps me to feel accepted by others	0.725	12.456	***	0.899	0.896	0.698
SV2	OF improves the way I am perceived	0.599	26.419	***			
SV3	OF makes a good impression on other people	0.706	16.427	***			
SV4	OF gives me social approval	0.643	15.732	**			
FiV1	OF is not reasonably priced (R)	0.652	12.547	**	0.863	0.866	0.782
FiV2	OF offers good value for money	-0.607	-7.673	**			
FiV3	OF is a good product for the price	-0.695	-14.518	**			
FiV4	Of would be economical	-0.601	-9.333	**			

***$p < 0.001$; **$p < 0.005$; N =610.

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 3. Confirmatory factor analyses for dependent and moderator variables

Items		Factor loading	t-value	p	Cronb-ach's α	CR	AVE
Att1	I believe organic food is very useful to meet the nutritional needs	0.720	21.439	***	0.954	0.923	0.784
Att2	Organic food products have higher quality than conventional ones	0.897	22.143	***			
Att3	I am convinced the consumption of organic food is a reasonable action	0.788	19.667	**			
BB1	I always buy foods that contain no or fewer chemical ingredients	0.837	21.432	***	0.874	0.874	0.895
BB2	When I go shopping, I will look for foods with certified organic stamp	0.797	22.276	***			
BB3	I always buy organic products especially organic foods I always buy foods that are labelled as environmentally safe	0.775	18.432	***			
BB4		0.806	19.532	***			
PS1	I am highly price sensitive	0.658	21.324	***	0.964	0.963	0.774
PS2	Small increases in price will lead me to fewer purchases	0.764	22.146	***			
PS3	I think price is the primary reason for choosing the products	0.873	16.734	***			
PS4	I enjoy comparing prices	0.749	19.456	***			
PS5	I prefer to buy low-cost or discounted items	0.758	18.523	**			

***$p < 0.001$; **$p < 0.005$; N =610.

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 Larker (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 H3d.

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 4. Discriminant validity (intercorrelations of constructs)

Variables	Mean	SD	1	2	3	4	5	6	7
1. FV	5.237	1.127	0.867						
2. IV	6.333	1.003	0.364***	0.819					
3. SV	5.143	1.213	0.285***	0.373**	0.835				
4. FiV	6.261	0.966	0.461***	0.212***	0.232**	0.884			
5. ATT	6.133	0.103	0.474**	0.561**	-0.162***	0.266**	0.885		
6. BB	5.988	1.133	0.654***	0.333**	0.433**	0.458**	-0.133**	0.946	
7. PS	6.001	1.022	0.563**	-0.203**	0.666**	-0.225**	0.621**	0.532**	0.879

***$p < 0.001$; **$p < 0.005$; N =610. The square roots of AVE for discriminant validity are underlined along the diagonal

Table 5. Standardized effects, indirect effects, and direct effects of the model

	Estimates	Bootstrapping						
		Bias-corrected percentile 95% CI			Percentile 95% CI			
		Lower	Upper	Two-tailed significance	Lower	Upper	Two-tailed significance	
Total effect								
FV-BB	0.402	0.203	0.580	***	0.204	0.580	***	
IV-BB	0.366	0.148	0.560	***	0.149	0.560	***	
SV-BB	0.382	0.136	0.483	***	0.139	0.484	***	
FiV-BB	0.133	-0.014	0.142	0.072	-0.012	0.145	0.072	
Indirect effect								
FV-BB	0.387	0.203	0.539	***	0.205	0.540	***	
IV-BB	0.335	0.138	0.482	***	0.139	0.483	***	
SV-BB	0.347	0.392	0.593	***	0.350	0.393	***	
FiV-BB	-	-	-	-	-	-	-	
Direct effect								
FV-BB	0.016	-0.133	0.186	0.654	-0.134	0.185	0.645	
IV-BB	0.031	-0.171	0.035	0.383	-0.172	0.036	0.427	
SV-BB	0.035	-0.113	-0.021	0.542	-0.113	-0.023	0.637	
FiV-BB	0.094	-0.369	0.018	0.348	-0.372	0.020	0.324	

Note: Mediator: consumer attitude; Estimating of 10,000 bootstrap sample; ***: $p<0.001$; FV= functional value; IV= Individual value; SV=Social value; FiV= financial value; BB= buying behavior. CI: Confidence Interval.

Table 6. Invariance test of the two-group structural model

	Low price sensitivity group (N=268)		High price sensitivity group (N=342)		Unconstrained Model X^2 (df=404)	Constrained Model X^2 (df=405)	ΔX^2 (Δdf=1)	Moderation
	Estimate	t-value	Standardized coefficients	t-value				
H4: ATT→BB	0.739	16.233***	0.683	12.393 ***	873.940	878.748	4.808**	Yes

Note: Moderator: price sensitivity; *** $p<0.001$; ** $p<0.05$.

price sensitivity was examined to test the indirect influences. 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=

0.327 ***; p<0.001) are significant. These findings show that attitude plays a **full mediating** role in the relationship between perceived values (functional, individual and social) and buying behavior. Therefore, **H3a, H3b and H3c are supported**. For the independent variable financial value, the indirect effect is not significant since H1d is not supported. The direct effect of financial value on buying behavior is also insignificant (standardized direct effect= 0.094; p=0.324). Furthermore, the total effect (standardized total effect= 0.133; p=0.0719) of that relationship is insignificant. This shows that the mediating effect of attitude between financial value of organic food and buying behavior does not exist. Therefore,

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 χ^2 difference ($\Delta\chi^2$ =4.808**; Δdf= 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 (β=0.739; t=16.233; p <0.001) and high price sensitivity consumer groups (β=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 Kiatkawsin 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.

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