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How do consumers build their purchase preferences for olive oils?

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How do consumers build their purchase preferences for olive oils?

Abstract

Refined olive oil (ROO) and extra virgin olive oil (EVOO) categories differ in quality, composition and organoleptic properties. However, the gap of quality is not reflected in the purchase behaviour of Andalusian consumers. Our aim is to analyse how consumers build their purchasing preferences. A structural equation model based on Partial Least Squares (PLS-SEM) was built considering the relationship between intrinsic and extrinsic attributes. The results show attitudes toward ROO and EVOO and explain the consumption of the latter. EVOO taste influence both attitudes and consumption, but Brand Equity does not impact on attitudes toward EVOO. Furthermore, EVOO perceived price does not influence attitudes toward ROO.

Keywords: extra virgin olive oil, consumer behaviour, PLS-SEM.

1 Introduction

Andalusia, in Southern Spain, is by far the largest olive oil producing region in the world producing an average of 83% of the Spanish olive oil (IOC, 2015; MAGRAMA, 2015a). Far from being a generic product, the designation “olive oil” is shared for the three different market categories available for consumption (European Commission, 2013). These categories differ in quality, composition and organoleptic properties, especially when comparing refined olive oil (ROO¹) and extra virgin olive oil (EVOO) categories. The ROO obtained through an industrial refining process is a colourless product with neither flavour nor aroma that it is blended with a non-regulated small percentage of virgin olive oil which gives the organoleptic properties (Cabrera et al., 2015). On the other hand, EVOO is a product obtained directly from olives by mechanical pressing; thus, it is entirely made of olive juice, maintaining healthy and organoleptic properties. Thus, while the ROO is hardly differentiable from its intrinsic characteristics, the EVOO possesses a high potential of differentiation.

Both can be substitutive products given that they can potentially share the same uses at cooking; nonetheless both products are completely different in the healthfulness state of the olives, degree of ripeness, post-harvest handling and manufacturing process all of which is translated into the intrinsic quality - organoleptic attributes (Cabrera et al., 2015). However, previous literature has mainly studied the above-mentioned foodstuff as levels of a single attribute and not as clearly differentiated products (e.g. Mtimet et al., 2008 and 2013; Bernabéu et al., 2009; Dekhili et al., 2011). Nevertheless, this gap of quality is not reflected in the purchase behaviour of Andalusian consumers, according to the consumption data collected by official sources (MAGRAMA, 2015b). Indeed, during 2015, the consumption in Andalusian households was distributed as follow: 3.22 kg/per capita of ROO and 2.28 kg/per capita of EVOO (MAGRAMA, 2015b). Obviously, on the basis of economic theory, relative price gaps between products (Shepherd, 1990) could be a part of the explanation; however, the price gap between EVOO and ROO has been on average around €0.35 kg⁻¹ since 2007/2008 crop year – being the largest price gap of €0.81 kg⁻¹ reached in 2014/2015, which was an historically low production crop year (Figure 1).

-INSERT HERE FIGURE 1-

¹ It is worth mentioning that the trade description is “olive oil”, then the industry added the terms “mild or intense” (non-regulated terms only for marketing purposes). Here, we use ROO to facilitate the differentiation from EVOO and generic wording when olive oil market is referred to the market categories as a whole.

Thus, it becomes necessary to deepen in olive oil consumer behaviour. The aim of this paper is examining how consumers build their purchase preferences based on the attributes of the olive oil. To do so, a structural equations model was designed considering the relationship between intrinsic and extrinsic attributes and both EVOO and ROO.

The paper is structured as follows. The next sections develop the theoretical framework and the research method. The results of the research are shown in Section 4 and finally some conclusions are drawn which may be of value for the olive oil sector and consumers.

2 Theoretical framework

The Theory of Planned Behaviour (Ajzen, 1991) states that intentions drive behaviours and actions, and those can be predicted by attitudes, being this theory usually applied in the study of food choices (e.g. Shepherd, 1990; Saba and Di Natale, 1998). However, Schiffman and Kanuk (2004) understand that it is preferable to examine consumer behaviour as an observable variable than as a purchase intention. We followed the latter theoretical approach, so that instead of analysing intentions we dealt with actions given that consumers' stated purchases of olive oil were considered in the analysis (see e.g. Saba and Di Natale, 1998; Martinez-Carrasco et al., 2005).

The attributes of a product are an essential part of its objective quality (Grunert et al., 1996), although it is important to highlight that when consumers take decisions, they make a valuation that do not have to agree with reality (Kanuk, 2005). Therefore, according to Steenkamp (1997), besides the functional consequences of products, it is necessary to take into account psychosocial consequences linked to the perception that consumers have about product's attributes to understand their preferences (Brunso et al., 2005; Steenkamp and van Trijp, 1996). Consumers choose among product alternatives according to their attitude about the attractiveness of each product (Steenkamp, 1997) and the subjective expected utility given by them (Ajzen, 2015).

Based on both Ajzen (1991 and 2015) and Steenkamp (1997) theories, we link purchase actions to attitudes and behavioural beliefs or perceptions about one intrinsic attribute, taste, and two extrinsic attributes, brand and price (Bernués et al., 2003). Thus, our unit of analysis is a usual buyer who purchases olive oil according to his/her attitudes not only toward EVOO but also toward a product alternative, the ROO (see Figure 2).

-INSERT HERE FIGURE 2-

Consequently, positive attitudes toward EVOO should lead to a higher consumption of this foodstuff, while positive attitudes toward a product alternative – ROO – may lead to a lower consumption of EVOO. According to this, the first two hypotheses are as follows:

H1: EVOO consumption decreases according to positive attitudes towards ROO

H2: EVOO consumption increases according to positive attitudes towards EVOO

EVOO taste

The varied amount of organoleptic characteristics of EVOO is one of the most important aspects that make a difference between EVOO and the rest of vegetal oils, including ROO. Consequently, several papers in the literature establish that taste is a key attribute in consumers' decision making process (Dekhili et al., 2011; Mahlau et al., 2002). Thus, it can be assumed that a sensorial belief about the good taste of a product is directly attached to a positive attitude towards it (Thorsdottir et al., 2012) and also with a real consumption pattern (Shepherd, 1990; Steenkamp, 1997). Nevertheless, some authors argue that consumers prefer an olive oil with a mild taste against a strong one (Mtimet et al., 2008), furthermore, this strong taste may restrict the use of an olive oil for cooking or dressing alone (Mahlau et al., 2002). Thus, consumers may believe that EVOO taste is too strong for them or that it makes EVOO less useful for cooking. Thus, this perception may generate a negative attitude towards EVOO and a positive attitude towards ROO, as its main substitute. In this sense, resulting hypothesis are:

- H3:** Perceived strong taste of EVOO increases consumers' positive attitude towards ROO
H4: Perceived strong taste of EVOO decreases consumers' positive attitude towards EVOO
H5: Perceived strong taste of EVOO decreases consumers' EVOO consumption

Brand equity

Brand is one of the main cues in the process of decision making since it impacts in other perceptions of the products (Mitchell and Olson, 1977). To understand the effects of branding activities, brand equity has become from 90's a core concept in marketing literature when Aaker (1991) and later Keller (1993) published their seminal works. This is a multidimensional concept related to consumer behaviour, called consumer-based brand equity, that represents assets and liabilities linked to a brand by the customer (Aaker, 1991; Keller, 1993; Pappu et al., 2005).

Consumer-based brand equity can be focused on cognitive psychology perspective, as was done by Aaker (1991) and Keller (1993), considering consumers' response with a differential effect to a brand. Some definitions of brand equity (Srivastava and Shocker, 1991; Lassar et al., 1995) also highlight that consumers' utility from the consumption of the brand comprises an incremental value derived from non-functional utilities, called experimental, symbolic or subjective antecedents. Consequently, it is presumed that brand equity influences, first, the attitudes. Second, it may also affect directly in the consumption since according to Keller (1993) brand equity's dimensions drive purchase or consumption decisions. Consequently, a wide set of literature establishes a direct influence between brand equity and purchase decision such as the relevant work by Cobb-Walgren et al. (1995). In addition, Aaker (1991) highlights that brand equity can provide reasons to buy but also can reduce the incentive to try others. In addition, the market share corresponding to the most noted four-leader brands of ROO reaches 26% (Alimarket, 2015) of the total consumption of ROO in Spain. However, the development of the brand equity for the EVOO category is in an early stage since this four leader brands' market share only entails 7% of the consumption since there is a large amount of brands from small size cooperatives. Accordingly the resulting hypotheses are:

- H6:** Brand equity to leader brands traditionally associated to ROO increases consumers' positive attitude towards ROO
H7: Brand equity to leader brands traditionally associated to ROO decreases consumers' positive attitude towards EVOO
H8: Perceived strong taste of EVOO increases the brand equity to leader brands traditionally associated to ROO

EVOO price

The role of price in consumer purchase behaviour is one of the most studied product attribute. As previously stated, the gap existing between the target price of EVOO and ROO does not seem to explain the gap of consumption. In addition, considering the large-scale production, the high number of brands available in the market and the marketing strategies of the leader distribution companies, consumers can find a wide range of target prices for both products to the point that it is relatively easy to find ROO more expensive than EVOO which may increase the distortion between objective and perceived price (Maynes and Assum, 1982).

In considering agricultural markets, consumer behaviour models frequently analyse the role of price in variables related to purchasing and consumption (Van der Lans et al., 2001; Tarkiainen and Sundqvist, 2005; Gázquez-Abad and Sánchez-Pérez, 2009; Michaelidou and Hassan, 2010; Di Vita et al., 2013) as well as in consumer attitudes (Michaelidou and Hassan, 2010; Toma et al., 2011). Jacoby and Olson (1977) distinguish between the objective price, i.e. the actual price of the product, and the perceived price, which is encoded according to consumers own criteria. The authors emphasize the importance of this perceived price talking about consumers' decision making because they usually forget the actual price of a product but they mentally encode prices in ways that are meaningful to them (Dickson and Sawyer, 1985).

Based on this premise, it can be assumed that it may be difficult for consumers to remember the objective price of olive oil within the shopping basket, and, although the price gap between EVOO and ROO is not too high, it can be encoded in a different way by them. In this sense, consumers who believe the quality gap is higher than the price gap will perceive that EVOO has a lower price. In addition, we hypothesize that brand equity to leader brands associated to ROO has a negative impact on this perception of EVOO price, so proposed hypotheses are:

H9: Perceiving EVOO price as suitable decreases consumers' attitude towards ROO

H10: Perceiving EVOO price as suitable increases consumers' attitude towards EVOO

H11: Perceiving EVOO price as suitable increases consumers' EVOO consumption

H12: Brand equity to leader brands traditionally associated to ROO decreases perceiving EVOO price as suitable

3 Research method

To assess the proposed model we employed data from an online questionnaire survey structured into several sections to separate consumption data, EVOO taste, brand equity, and EVOO price. It was administered online from January to April 2016 to 630 usually buyers at household level over 20 years old. The sample was selected from big sized cities – more than 100,000 inhabitants – which comprise 37% of the population (INE-Spanish Statistics Institute, 2015) in Andalusia. Small (fewer than 20,000 inhabitants) and medium sized cities (between 20,000–100,000 inhabitants) were discarded since most of them are olive oil producing areas and we were interested in the ordinary urban consumers. Previously two pre-tests (8% of the sample each) were tried out to detect potential biases in comprehension. The sampling was controlled by age and schooling according to Andalusia regional data (INE-Spanish Statistics Institute, 2015) to avoid the underrepresentation of some groups (older and lower level of schooling) that could happen using online panels; so, 44% of the surveyed consumers were men, 70% have primary or secondary studies, and 40% were between 20 and 39 years old, 36% between 40 and 55 and 24% was over 55 years of age.

The collected data were measured on a differentiated basis for consumption, attitudes, EVOO taste, brand equity, and EVOO price. The consumption of EVOO was comprised of three observable variables. First, the size of the pack and the frequency of purchase of EVOO and/or ROO as well as seed oils were requested in order to estimate the relative amount of EVOO used per capita in a monthly basis for each household (MAGRAMA, 2015b). Second, to get a relative index of EVOO weekly use habits, the number of days per week using for breakfast, lunch or dinner each type of the above-mentioned oils were inquired (adapted from Menozzi and Mora, 2012; Wadołowska et al., 2008). Third, the preferred olive oil if consumers could only choose one, as a binary variable. To measure each of the eight observable variables belonging to attitudes, a 7 points Likert-scale (1 to express the lowest level and 7 to indicate the highest level) was used, having been validated both the observed variables (Thorsdottir et al., 2012; Makanyeza, 2014) and the measurement scales (Aaker and Williams, 1998) by the existing literature on this subject. The above-mentioned Likert-scale was also used to measure the observable variables about the perception of EVOO taste (Thorsdottir et al., 2012) and price (Michaelidou and Hassan, 2010).

Brand equity was conceptualized as an overall picture of the brand through its dimensions (Yoo and Donthu, 2001; Pappu et al., 2005), so an indirect approach was followed to measure it. The numerous definitions of this concept have led to several viewpoints. The most well-known conceptions come from Aaker (1991) and Keller (1993). Aaker (1991) identifies four main dimensions of brand equity, namely brand awareness or the extent to which a brand is recognized or recall; brand associations whose meaning is linked to the representations triggered by a brand; brand loyalty which is related to the consistent purchase of a brand over time; and perceived quality that is the consumer's perception of a brand quality superiority. The brand equity conceptualization developed in this study was inspired by the above-mentioned author. However, only three

dimensions were considered as in Yoo et al. (2000): brand awareness/associations, perceived quality and brand loyalty. All the dimensions were asked about leader brands traditionally linked to ROO category – concretely we used the most noted four leader brands, choosing the respondent's most frequently used brand or, alternatively, better known. Likewise, 7 points Likert-scale (1 to express the lowest level and 7 to indicate the highest level) was used to measure each of the three observable variables belonging to the three different dimensions which define brand equity. All the observable variables or indicators are shown in Table 1.

-INSERT HERE TABLE 1-

PLS path modelling was used to test the hypotheses (Wold, 1979) since it does not impose distributional assumptions (Chin, 2010), averts identification issues and factor indeterminacy (Chin, 1998; Fornell and Bookstein, 1982; Henseler, 2010), and it allows mix-models with both reflective, principal or common factor latent variables and composite latent variables (Fornell, 1982; Diamantopoulos and Winklhofer, 2001). Those features become keys since EVOO consumption (C1) and Price (C6) were considered composite latent variables, i.e. compound indexes built to measure those aspects of consumer behaviour. In addition, to avoid the well-known *consistency at large* (Lohmöller, 1989) issue, the common factors were calculated by means of PLS consistent (Dijkstra and Henseler, 2015). PLS is also suitable to estimate higher order (multidimensional) latent variables. We modelled Brand equity (C5) as a reflective-reflective second-order latent variable (Jarvis et al., 2003), being the approach selected to estimate them the repeated indicators approach (Wold, 1982).

4 Results

According to Chin et al. (2003), the reflective or common factor measurement variables are assessed by both the reliability by means of the indicators' loadings and construct reliability (Cronbach's alpha: α , Dillon-Goldstein's rho: ρ_C , and Dijkstra-Henseler's rho: ρ_A), and the validity using as the convergence validity (average variance extracted: AVE). These statistics are summarized in Table 2 to check the validity of the second-order latent variables.

-INSERT HERE TABLE 2-

Second-order latent variables' measurement model yielded a good performance. Carmines and Zeller (1979) propose a loading over 0.707 as a criterion for acceptance, i.e. more than 50% of the observed variance variability explained by the construct. The internal consistency (ρ_A , ρ_C , α) for each observable variable cluster did not exceed 0.95 like it is suggested for Nunnally and Bernstein (1994). The average variance extracted (AVE) should be at least 0.5 (Fornell and Larcker, 1981), a benchmark that was exceeded for all the latent variables in the models.

Once the properties of the measures for the second-order latent variables were assessed, measurement EVOO model was tested using the above-mentioned indicators (see Table 3) and the Heterotrait-monotrait ratio of correlations (HTMT) to verify the discriminant validity (see Table 4), which value must be lower than 0.85 (Henseler et al., 2014). The loadings of two observable variables (X_{12} and X_{13}) are lower than the benchmark of 0.707 proposed by Carmines and Zeller (1979); however, Chin (1998b) relaxes this threshold for early stages of the scale's development accepting loadings over 0.6.

-INSERT HERE TABLE 3-

-INSERT HERE TABLE 4-

Measurement model complied with all the requirements demanded in order to have a good structural model specification. Then, to assess the nomological validity of our hierarchical model, parameters and their respective significances were estimated and reported in Table 5 (the t-values were generated by the bootstrapping technique on the basis of 5000 re-samples).

-INSERT HERE TABLE 5-

We found support for the entire hypothesis except H7 and H10. First important finding refers to the role played by attitudes toward both ROO (C2) and EVOO (C3) to explain the relative consumption of EVOO (C1). Positive attitudes towards EVOO contributed significantly to increase the consumption of this product, on the contrary positive attitudes toward ROO decreased this consumption so H2 and H3 were supported. This means that attitudes towards an EVOO product alternative such as ROO do indeed hamper consumers' purchase decision regarding EVOO. The variance explained by the model in terms of adjusted R^2 was 0.536 for EVOO consumption, a good figure for consumer behavior studies where Falk and Miller (1992) set the lowest recommended level in 0.1. It is also worth noting that the variable called EVOO taste (C4) influenced the consumers' judgment about ROO (C2), EVOO (C3) and its consumption (C1) since the path coefficients were significant, supporting H3, H4 and H5. The direction of the relationships was the expected ones given that a negative perception about EVOO taste expands the negative feeling about it and the positive feeling about the alternative product, and, more important, reduces its consumption, as the higher effect size (f^2) suggests.

Another finding is the significance of the Brand Equity to ROO leader brands (C5). We confirmed that the higher the brand equity to leader brands of ROO category the better the attitude towards ROO (C2), result that support hypothesis H6. However, we did not find a significant impact between Brand Equity and attitudes toward EVOO (C3), so H7 was not supported. Thus, we infer that consumers who have brand equity result in lower extra virgin olive oil consumption, a reasonable result considering that they must have a higher loyalty towards their refined olive oil leader brands. The relationship between EVOO taste (C4) and Brand Equity (C5) is also remarkable, due to the effect size. The negative perception about EVOO taste makes consumers value brands associated with ROO as an alternative purchase choice.

Finally, the perception that EVOO has a suitable price (C6) improves consumers' attitude toward EVOO (C3) and its consumption (C1), supporting H10 and H11, but this perceived price has not impact on the attitude towards ROO (C2), so H9 is not supported. In addition, olive oil consumers with brand equity (C5) perceive that EVOO has not a good price (C6) according to its quality characteristics, supporting H12.

5 Conclusions

The results of this paper contribute to a better understanding about olive oil consumers' behavior, whose main contribution lies in the originality of the three aspects listed below. Firstly, unlike most of the research carried out on olive oil consumption, based on the intention to buy a hypothetical product, this paper was designed with the objective of understanding the actual purchase behavior of the consumers. Secondly, it has been considered that the preferences of EVOO consumers cannot be properly explained if the behavior towards the ROO as the main substitute product is not taken into account. And, lastly, brand equity has not been studied in isolation, but has been included as a source of explanation of consumer behavior.

It is important to highlight the bewilderment around the EVOO taste. Current legislation regulates the use of the attributes fruity, bitter and spicy in virgin olive oils, but the interpretation of these attributes may not be easy for a consumer who is unfamiliar with these terms, being able to evoke even negative aspects: the perception that the EVOO taste is a too strong can be revived by the terms bitter and spicy, if consumers has not the correct information. On the other hand, consumers have less uncertainty to buy ROO because they know that this product always have the same mild taste. In addition, ROO is backed by brands that are well known by consumers, so brand equity transfers additional value to a product with a lower quality than EVOO.

In this sense, it is crucial for the producer sector to improve consumers' training about the intrinsic characteristics of EVOO so that they can have clear information in order to value the EVOO taste and its relationship with health.

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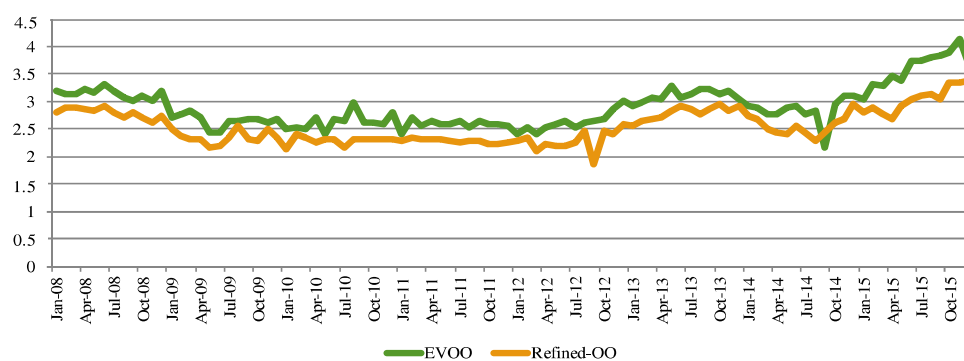
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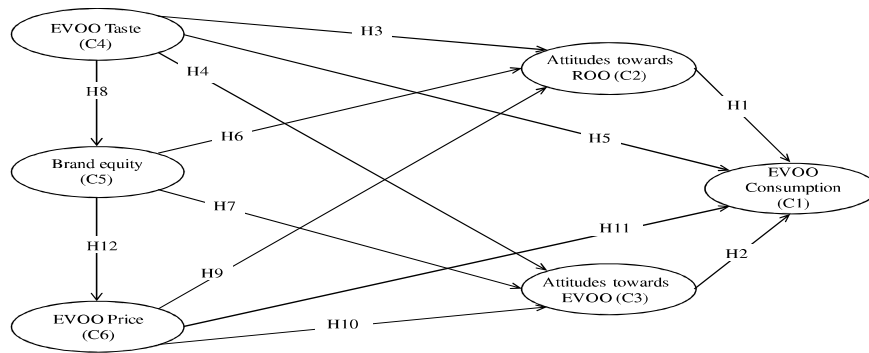
7 Appendix

Figure 1. Monthly evolution of target prices in Andalusia (€ kg⁻¹)



Source: MAGRAMA (2015b)

Figure 2. Conceptual model for consumers' EVOO consumption



Source: Authors' elaboration

Table 1. Latent and observable variables

Latent and Observable Variables	Source
EVOO Consumption (C1) ^{n, C}	
X ₁ : Relative consumption of EVOO X ₂ : Relative weekly use habits of EVOO	Adapted from Olsen (2003); Saba and di Natale (1998)
Attitude to ROO (C2) ^{n, F}	
X ₃ : The confidence you have in ROO is... X ₄ : The degree you need ROO is... X ₅ : The health benefits of ROO are... X ₆ : The degree you recommend the ROO is....	Adapted from Thorsdottir et al. (2012); Yangui et al. (2013); Makanyeza (2014)
Attitude to EVOO (C₂) ^{n, F}	
X ₇ : The confidence you have in EVOO is... X ₈ : The degree you need the EVOO is... X ₉ : The health benefits of EVOO are... X ₁₀ : The degree you recommend the EVOO is....	Adapted from Thorsdottir et al. (2012); Yangui et al. (2013); Makanyeza (2014)
EVOO taste (C4) ^{ξ, F}	
X ₁₁ : EVOO is less useful for cooking than ROO because of its taste X ₁₂ : I prefer a mild-taste olive oil X ₁₃ : The taste of EVOO is too strong for the most of dishes	Adapted from Thorsdottir et al. (2012)
Brand Equity (C5) ^{n, F}	
<i>Brand awareness and associations (C5₁) ^ξ</i> X ₁₄ : I trust in (leader brand) among other competing brands [including my brand] X ₁₅ : When I think in olive oil brands, I have no difficulty in imagining (leader brand) in my mind X ₁₆ : If (leader brand) did not exist, it would be difficult to find the same characteristics in other brands	
<i>Perceived quality (C5₂) ^ξ</i> X ₁₇ : The (leader brand) quality-price ratio [in comparison to alternative brands including my brand] is... X ₁₈ : The likely image of quality of (leader brand) [in comparison to alternative brands including my brand] is... X ₁₉ : (Leader brand) has higher quality in comparison to alternative brands including my brand...	Adapted from Yoo and Donthu (2001), Keller (2001); Delgado-Ballester and Munuera-Alemán (2005); Beristain and Zorrilla (2011)
<i>Brand loyalty (C5₃) ^ξ</i> X ₂₀ : The likelihood that (leader brand) is a purchase choice is... X ₂₁ : Even when another brand is cheaper, I would prefer (leader brand) X ₂₂ : At equal price, I would prefer (leader brand)	
EVOO price (C6) ^{n, C}	
X ₂₃ : I think EVOO has a suitable price according to its characteristics X ₂₄ : Considering my annual food outlay, I think EVOO is a cheap product X ₂₅ : I usually buy olive oil that is on sale	Adapted from Michaelidou and Hassan (2010)

Note: ⁿ: Endogenous Latent Variable; ^ξ: Exogenous Latent Variable;

Note: ^C: Composite Latent Variable; ^F: Factor Latent Variable.

Source: Authors' elaboration.

Table 2. Measurement model: Indicators' loadings and construct reliability for second-order latent variables.

Dimension/indicators	Loadings ^a	ρ_A	ρ_C	α	AVE
C5 ₁		0.775	0.866	0.768	0.684
X ₁₄	0.840				
X ₁₅	0.863				
X ₁₆	0.775				
C5 ₂		0.837	0.901	0.833	0.752
X ₁₇	0.809				
X ₁₈	0.898				
X ₁₉	0.891				
C5 ₃		0.868	0.918	0.866	0.789
X ₂₀	0.892				
X ₂₁	0.871				
X ₂₂	0.902				

^a All the loadings are significant at $p < 0.001$ based on t-statistic of one-tailed test for $t_{(4,999)}$.

Source: Authors' elaboration.

Table 3. Measurement model: Indicators' loadings or weights and construct reliability.

C _i / X _i	Loadings / Weights ^a	ρ_A	ρ_C	α	AVE	C _i / X _i	Loadings / Weights ^a	ρ_A	ρ_C	α	AVE
C1 ^{η, b}		n.a.	n.a.	n.a.	n.a.	C4 ^ξ		0.754	0.750	0.747	0.501
X ₁	0.505***					X ₁₂	0.669***				
X ₂	0.395***					X ₁₃	0.685***				
X ₃	0.219***					X ₁₄	0.765***				
C2 ^η		0.908	0.899	0.901	0.691	C5 ^η		0.897	0.893	0.892	0.736
X ₄	0.906***					C5 ₁	0.877***				
X ₅	0.918***					C5 ₂	0.908***				
X ₆	0.748***					C5 ₃	0.784***				
X ₇	0.737***										
C3 ^η		0.834	0.804	0.813	0.515	C6 ^{η, b}		n.a.	n.a.	n.a.	n.a.
X ₈	0.616***					X ₂₃	0.376***				
X ₉	0.911***					X ₂₄	0.269***				
X ₁₀	0.572***					X ₂₅	0.717***				
X ₁₁	0.724***										

^η: Endogenous Latent Variable; ^ξ: Exogenous Latent Variable.

^a All the loadings and weights are significant at $p < 0.001$ based on t-statistic of one-tailed test for $t_{(4,999)}$.

^b Variance Inflation Factors (VIF) is under 5.

Note: n.a. means non-applicable.

Source: Authors' elaboration.

Table 4. Heterotrait-monotrait ratio of correlations (HTMT): 0.85 – 0.95

Observable Variables	C2	C3	C4
C3	0.110		
C4	0.433	0.304	
C5	0.465	0.140	0.540

Source: Authors' elaboration.

Table 5. Path coefficients and significance test

Hypotheses	Path coefficients	t-value	Hypothesis results	f ²
C2→C1 H1	-0.214***	6.393	Supported	0.076
C3→C1 H2	0.251***	5.816	Supported	0.115
C4→C2 H3	0.251***	4.628	Supported	0.059
C4→C3 H4	-0.311***	4.767	Supported	0.075
C4→C1 H5	-0.404***	9.328	Supported	0.246
C5→C2 H6	0.312***	6.376	Supported	0.091
C5→C3 H7	0.055 ^{n.s.}	0.943	Not supported	0.002
C4→C5 H8	0.546***	14.681	Supported	0.424
C6→C2 H9	-0.062 ^{n.s.}	1.519	Not supported	0.005
C6→C3 H10	0.128**	2.791	Supported	0.017
C6→C1 H11	0.222***	7.042	Supported	0.098
C5→C6 H12	-0.240***	6.023	Supported	0.061

Note: *** p < 0.001; ** p < 0.01; n.s. non-significant – based on t-statistic of two-tailed test for t_(4,999).

Source: Authors' elaboration.