

A consumer behaviour approach to analyse handmade and locally made agrifood products in Western Honduras

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ABSTRACT: This research analyses consumer behaviour related to the purchase of handmade and locally made agrifood products in Western Honduras (Occidental Region). A relational model was built, and structural equation modelling (SEM) by means of variance-based partial least squares (PLS) path modelling was applied. The existence of a mediator variable was also examined. The results showed that the consumption of handmade and locally made agrifood products increases for consumers who read nutrition labels and health claim information and for those with higher income and who are younger.

KEYWORDS: Handmade and locally made agrifood products, Honduras, labelling, Partial Least Squares (PLS).

Una aproximación desde el comportamiento del consumidor al análisis de los productos agroalimentarios artesanales y locales en Honduras occidental

RESUMEN: La presente investigación analiza el comportamiento del consumidor en relación con la compra de productos elaborados de forma artesanal y local en el área occidental de Honduras (Región Occidental). Para ello, ha sido diseñado un modelo relacional y aplicada la metodología de Ecuaciones Estructurales por regresión de mínimos cuadrados parciales (PLS) basada en varianza, comprobándose la existencia de una variable mediadora. Los resultados indican que el consumo de productos agrarios artesanales y locales aumenta cuando se considera en la elección de compra la información nutricional y alegaciones beneficiosas para la salud, se tienen mayores ingresos y se es más joven.

PALABRAS CLAVE: Productos agroalimentarios artesanales y locales, Honduras, etiquetado, regresión de mínimos cuadrados.

JEL classification/Clasificación JEL: D12, Q13.

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1. Introduction

Handmade and locally made agrifood products have played an important role in the alleviation of poverty (Robinson & Picard, 2006) and the maintenance of standards of living for numerous smallholders in Latin America (Domínguez Hernández & de la Paz Hernández, 1996). In fact, these types of products have direct beneficial effects on food security and the environment as well as on the tourism industry (Rogerson & Rogerson, 2011), which in turn also fuels the production of these foodstuffs (Bowman, 2011). Development agencies have particularly supported the production and commercialization of handmade agrifood products and other locally made products (e.g. ASDI, 2005; AECID, 2013). As a result, the contributions of these types of foodstuffs to local economic development have increased because consumers in developing countries have become more concerned with food safety and quality (Wilcock *et al.*, 2004; Grunert, 2005). However, the producers of handmade and locally made agrifood products in developing countries have previously been shown to lack business skills (UNIDO, 2006; Rogerson & Rogerson, 2011), especially those derived from knowledge of consumer behaviour (Domínguez Hernández & de la Paz Hernández, 1996). Understanding markets, particularly consumer behaviour, is critical to generating increased sales and consequently higher incomes (East, 1997) for local smallholders.

Indeed, there is a significant lack of literature on the handmade and locally made product sector in developing countries in general and in Latin America in particular (Richard, 2007; Boys *et al.*, 2014). Among these studies, Herrera-Corredor *et al.* (2010), who examined a traditional handmade food (corn *tortillas*) in Mexico, show that this product is less accepted and purchased by consumers with less education and lower-paying jobs. Another study (Granados & Álvarez, 2002), conducted in Costa Rica focused on products with geographical labels to indicate local production, finds that there is widespread ignorance about the meaning of these geographical designations of origin. Nevertheless, Rodríguez *et al.* (2006) state that, in Argentina, a segment of consumers is more likely to buy organic products that are derived from local crops; moreover, a recent study (Boys *et al.*, 2014) conducted in the Dominican Republic, notes that consumers are willing to pay a price premium of 12 % for locally grown products. In addition, Rodríguez-Entrena *et al.* (2016) find that cheap refined white sugar is more preferred than handmade and locally made *panela* in Honduras.

Given both the contributions of handmade and locally made agrifood products to improving local economic development and the need for empirical studies about consumer behaviour in developing countries, this paper analyses consumer behaviour related to the purchase of handmade and locally made agrifood products by assessing the factors that influence this decision-making process in Western Honduras (Occidental Region). In order to do so, a relational model was built, and structural equation modelling (SEM) by means of variance-based partial least squares (PLS) path modelling was applied to analyse the purchasing behaviour for handmade and locally made agrifood products. The existence of a mediator variable was also examined using the product of coefficients method by bootstrapping.

The contribution of this paper to the existing literature is twofold. First, this paper contributes to the conceptualization of an integrated framework in order to provide a better understanding of consumer behaviour related to the purchase of handmade and locally made agrifood products, particularly in developing countries, where the literature and consequently empirical models are scarce. The model uses some of the main variables developed in previous studies, but also introduces two novelties: the awareness of reading nutrition labels and health claim information is tested as a mediator variable, and three variables are included as composites. Second, the application of variance-based SEM by means of PLS modelling is an original approach to studying this topic. Earlier studies, mostly in developed countries, have used traditional econometric models, and some covariance-based SEM models.

This paper is structured as follows. The next section develops the theoretical framework and presents the analytical model. Then, the research method is discussed. The results of the analysis are shown in Section 4. Finally, the main discussion is summarised in Section 5 and the conclusions are presented in Section 6.

2. Theoretical framework and model development

Consumer behaviour has been studied using diverse approaches. Since Lancaster's theory (Lancaster, 1966), it has been widely accepted that product characteristics or attributes determine consumer behaviour. In this research, consumers' purchases are assumed to be based on two main attributes: handmade and locally made agrifood products, with the price also taken into account. In this regard, consumers' purchases were considered in the analysis, which is consistent with previous studies (e.g. Conner *et al.*, 2010; Koutroulou & Tsourgiannis, 2011).

Those handmade and locally made attributes are rarely studied in Latin America. In developed countries, such as the United States (Darby *et al.*, 2006; Bellows *et al.*, 2010) and European countries, e.g., United Kingdom (Weatherell *et al.*, 2003), Spain (Bernabéu *et al.*, 2005) and Greece (Koutroulou & Tsourgiannis, 2011), that subject is more abundant due to increases in consumption and/or support provided by targeted policies of some governments in recent years for the production of goods with the above-mentioned features (Bellows *et al.*, 2010). However, the definitions of locally made agrifood are diverse and sometimes confusing (Bond *et al.*, 2008). While some definitions refer to the geographical area where foods are produced (Darby *et al.*, 2008; Cranfield *et al.*, 2012), others point to indirect characteristics (Dentoni *et al.*, 2009; Giovannucci, 2010) such as authentic, handmade, and typical foods (Groves, 2001). In this study, the geographic dimension has been linked to a specific well-defined region (Occidental Region) in Honduras, and the foods' indirect characteristic is that they are handmade, that is, produced either completely by hand or partially as long as the manual contribution is the most important component of the finished product (UNESCO, 1997). The above-mentioned characteristic implicitly involves authenticity and typicality because, according to Grooves (2001), a product that is or appears to be handmade strengthens perceptions of authenticity,

and according to Akaichi & Gil (2009), the typicality of a food product is highly linked to its territory of origin.

Regarding those factors that drive consumers' purchases of handmade and locally made agrifood stuffs, some studies (Dentoni *et al.*, 2009; Bosshart *et al.*, 2010) find that beliefs and feelings –i.e., cognition and affect aspects– related to health could be the key drivers, given that those food products are linked to healthier intrinsic features. In fact, according to Grunert (2006), there are four main attributes that drive consumer food choices, and one of them is healthiness. In this sense, Barreiro-Hurlé *et al.* (2010) state that the perceived healthiness of food is a dominant feature of food choices. Dentoni *et al.* (2009) note that consumers often infer that all handmade and locally made foodstuffs are healthy, which creates a positive attitude towards these products among people who are concerned about health and healthy lifestyles. Additionally, several studies show that households with healthy diets and special requirements are more prone to purchasing handmade and local foods (Bellows *et al.*, 2010; James *et al.*, 2009). On this basis, the first two hypotheses are as follows:

- Hypothesis 1. Handmade and locally made agrifood purchases increase with healthy choices in daily purchasing behaviour (H1).
- Hypothesis 2. Handmade and locally made agrifood purchases increase with healthy lifestyles (H2).

The existing literature also agrees that a greater willingness to purchase handmade and locally made agrifood products depends on the consumer's awareness of food features related to nutrition (James *et al.*, 2009), such as ingredients or composition, as well as on the nutritional and health claims made on labels. Within this body of literature, some scholars refer to the positive impact of consumer choice on the above-mentioned products when their labels present nutrition claims, health claims or both (Bond *et al.*, 2008; Koutroulou & Tsourgiannis, 2011). However, this information must be properly provided for consumers to bear it in mind (Cowburn & Stockley, 2005).

According to Singla (2010), difficult terminology, small font sizes and inability to understand nutritional information are the major problems encountered by Indian consumers when reading labels. Indeed, providing abundant information can be counterproductive because it leads to saturation (Akaichi & Gil, 2009). Taking into account the above-mentioned limitations, nutritional composition and claims made on labels are strategic factors to understand the demand for handmade and locally made agrifood products. In fact, merely labelling these products clearly as handmade and local increases consumers' purchase options by increasing demand (Bond *et al.*, 2008; James *et al.*, 2009; Conner *et al.*, 2010). In some developed countries, this tendency has resulted in government promotion of local labelling programmes to improve opportunities for small- and medium-sized farmers (Conner *et al.*, 2010). The resulting hypothesis is defined as follows:

- Hypothesis 3. Handmade and locally made agrifood purchases increase with awareness of reading nutrition labels and health claim information (H3).

In the same way, the literature underlines quality concerns or perceptions as key drivers of a higher willingness to purchase or to pay premiums for local and handmade agrifood products (e.g. Weatherell *et al.*, 2003; Akaichi & Gil, 2009; James *et al.*, 2009; Conner *et al.*, 2010). Additionally, brand and brand quality are mentioned, but the relation with the willingness to purchase is not unidirectional. Some studies (Weatherell *et al.*, 2003; Cranfield *et al.*, 2012) consider how brand orientation among consumers produces a positive relationship with a higher willingness to purchase handmade/locally made foods. However, other studies performed in developing countries show a contrary pattern, that is, the more consumers worry about brands, the less interest they have in local foodstuffs (Batra *et al.*, 2000). Therefore, according to the abovementioned authors, there is one stream of anthropological literature that has largely been ignored in the standard literature on brands' country of origin, which suggests that consumers in developing countries have a preference for non-local (foreign) brands due to symbolic and status-enhancing reasons in addition to higher perceived overall quality. Subsequently, the resulting hypothesis is as follows:

- Hypothesis 4. Handmade and locally made agrifood purchases are influenced by brand, quality and taste drivers when consumers are shopping for agrifood products (H4).

Finally, some studies address the relationships between consumers' socioeconomic characteristics and handmade or locally made agrifood purchases (Onianwa *et al.*, 2005). In particular, more purchases of these products are observed among upper income households, younger household members (on average) (Akaichi & Gil, 2009; Bellows *et al.*, 2010) and larger households (Conner *et al.*, 2010). Thus, the resulting hypothesis is as follows:

- Hypothesis 5. Handmade and locally made agrifood purchases are influenced by consumers' socioeconomic characteristics (H5).

The literature review also allowed us to realize that the above-mentioned factors such as quality, brand and taste influence consumers' attitude towards reading and considering label information (Siu & Man-yi Tsoi, 1998; Singla, 2010), as do households' healthy lifestyles. Several studies (Wang *et al.*, 1995; Siu & Man-yi Tsoi, 1998; Cowburn and Stockley, 2005; Drichoutis *et al.*, 2006; Ollberding *et al.*, 2011) indicate that consumers who have a special interest in or a positive attitude towards healthy eating patterns and healthy lifestyles make increased use of food labels. A study performed by Bosman *et al.* (2013) shows that health-concerned respondents also considered labels to be important sources of health information to inform their

food choices. Consequently, consumers who follow special diets or who have special dietary needs use nutritional labels regularly (Mannell *et al.*, 2006; Fitzgerald *et al.*, 2008; Singla, 2010), as consumers who believe in the importance of low fat or low salt diets do (Satia *et al.*, 2005). Hence, the following hypotheses are proposed:

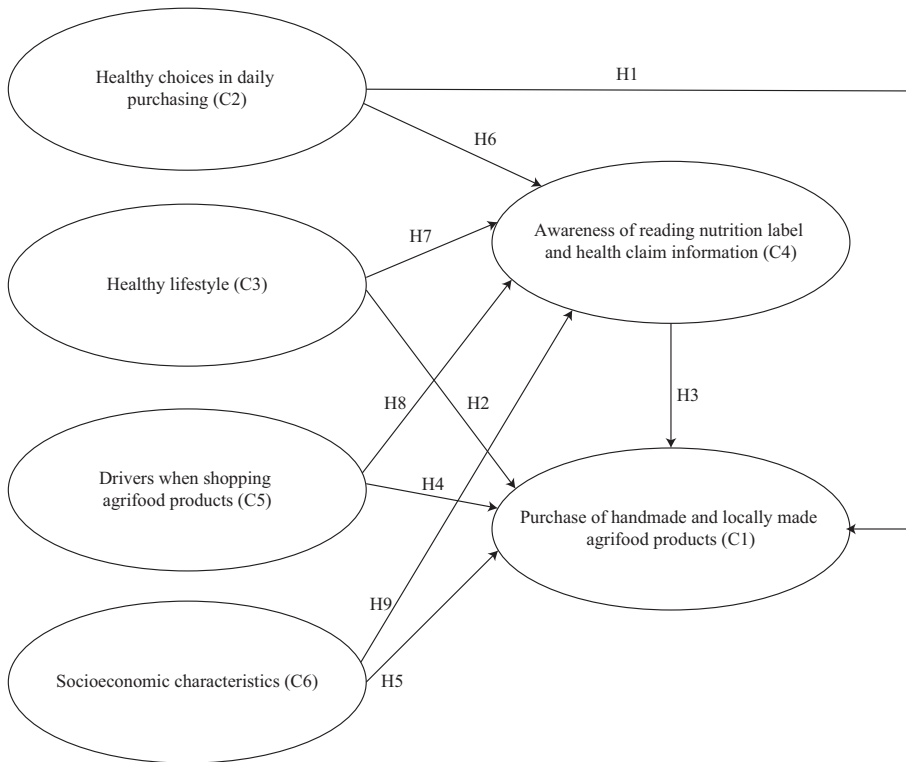
- Hypothesis 6. Awareness of reading nutrition labels and health claim information increases with healthy choices in daily purchases (H6).
- Hypothesis 7. Awareness of reading nutrition labels and health claim information is influenced by healthy lifestyles (H7).
- Hypothesis 8. Awareness of reading nutrition labels and health claim information is influenced by brands, quality and taste drivers when consumers are shopping for agrifood products (H8).

In addition, according to different scholars, consumers' socioeconomic characteristics not only directly influence handmade or locally made agrifood purchases but also consumers' attitudes towards reading food labels (Siu & Man-yi Tsoi, 1998; Blitstein & Evans, 2006; Misra, 2007), which in turn can influence both purchasing behaviour and healthier diets (Guthrie *et al.*, 1995). Thus, an increasing tendency among consumers to read labels and to consider this information is related to their socioeconomic characteristics. In fact, some studies have found a negative impact (Drichoutis *et al.*, 2006) of household income and size on label use –i.e., the higher the income is, the lower the use of labels– while other studies have found a positive relationship (Wang *et al.*, 1995). However, a study conducted in India (Singla, 2010) notes that these factors do not play a role in the usage of nutrition labels by consumers. Consequently, the resulting hypothesis is as follows:

- Hypothesis 9. Awareness of reading nutrition labels and health claim information is influenced by consumers' socioeconomic characteristics (H9).

Drawing on the findings derived from the literature review, we propose the conceptual model presented in Figure 1.

FIGURE 1
Conceptual model



Source: Own elaboration.

3. Material and methods

The hypothesized model (Figure 1) was tested empirically using data from a survey conducted in Santa Rosa de Copán (Copán region) and San Marcos (Ocotepeque region) in August 2013. The total population of these cities and their characteristics were obtained from the Mancomunidad de Municipios from Valle de Sensenti and the Consejo Intermunicipal Rio Higuato, which provided the population censuses that served as baselines. Those cities were chosen because they are two of the largest cities with the highest income levels in Western Honduras (MANVASEN, 2012). A stratified quota sampling through random routes with proportional allocations for gender and age was selected, setting the sample size to 203 consumers (sampling error of 7 %; $p = q = 0.5$). The consumers were asked about handmade and locally made agrifood products as well as health attitudes, food label use and socioeconomic and lifestyle variables. The validity of the sample with respect to the population was

verified by performing Chi-square tests between the sample and census variables, which has been included in Table 1.

TABLE 1
Descriptive statistics of sample and population
socio-demographic characteristics

Characteristics		Sample (%)	Population (%)	Sample representativeness
Gender	Female	53.7	54.0	$\chi^2 = 0.003$ p-value = 0.952
	Male	46.3	46.0	
Age	≥ 18 years and ≤ 30 years	46.7	46.9	$\chi^2 = 0.001$ p-value = 0.992
	≥ 31 years and ≤ 50 years	34.9	34.8	
	≥ 51 years	18.2	18.2	
Education level	Primary or no studies	57.1		
	Secondary studies	21.2		
	University studies	6.9		
	Do not know	14.8		
Household income (lempiras/month)*	< 4000	50.1		
	≥ 4000 and ≤ 8000	36.3		
	> 8000	11.7		

* US\$1.00= 20.98 lempiras.

Source: Own elaboration.

In order to test the previously stated hypotheses, the complex concepts in the theoretical model were designed as latent variables: Handmade and locally made agrifood purchases (C1); Healthy choices in daily purchasing – based on the health trade-off index (HTI) (C2); Healthy lifestyle factors (C3); Awareness of reading nutrition labels and health claim information (C4); Drivers when shopping for agrifood products (C5); and Socioeconomic characteristics (C6). The observed variables included in each latent variable are summarized in Table 2, adding information about how those variables were defined based on the previous literature.

TABLE 2
Model latent and observed variables

Latent Variables	Observed Variables	Source
Handmade and locally made agrifood product purchases (C1)*	X1: How many handmade agrifood products do you usually buy?	Adapted from Koutroulou & Tsourgiannis (2011), Conner <i>et al.</i> (2010), Dentoni <i>et al.</i> (2009).
	X2: How many agrifood products made in the Occidental region do you usually buy?	
Healthy choices in daily purchasing: Health trade-off index - HTI (C2)	X3: Do you usually purchase a healthier food product or a better tasting one?	Adapted from Barreiro Hurlé <i>et al.</i> (2010), Dentoni <i>et al.</i> (2009).
	X4: Do you usually purchase a healthier food product or a cheaper one?	
	X5: Do you usually purchase a healthier food product or an easier to cook one?	
Healthy lifestyle factors (C3)	X6: Household members do sport regularly	Adapted from Bellows <i>et al.</i> (2010), Singla (2010), James <i>et al.</i> (2009), Satia <i>et al.</i> (2005).
	X7: Household members care about salt and fat consumption	
	X8: Household members care about their health	
Awareness of reading nutrition labels and health claim information (C4)*	X9: Do you read the labels of agrifood products before you buy them?	Adapted from Bosman <i>et al.</i> (2013), Singla (2010), Barreiro-Hurlé <i>et al.</i> (2010), Siu & Man-yi Tsoi (1998).
	X10: Do you use nutritional labels to inform agrifood purchases?	
	X11: Do you use health claims to inform agrifood purchases?	
Drivers when shopping agrifood products (C5)	X12: Among the three key drivers in your purchasing decisions for agrifood products, do you consider brand?	Adapted from Conner <i>et al.</i> (2010), Singla (2010), Batra <i>et al.</i> (2000).
	X13: Among the three key drivers in your purchasing decisions for agrifood products, do you consider quality?	
	X14: Among the three key drivers in your purchasing decisions for agrifood products, do you consider taste?	
	X15: Number of household members	
Socioeconomic characteristics (C6)	X16: Household income	Adapted from Bellows <i>et al.</i> (2010), Conner <i>et al.</i> (2010), Akaichi & Gil (2009), Bougherara <i>et al.</i> (2008), Onianwa <i>et al.</i> (2005).
	X17: Age	

* Endogenous latent variables.
Source: Own elaboration.

The measurement scales adopted are validated based on the existing literature (see Table 2). Consumption was characterized as a behaviour-related latent variable using self-reported actual consumption by means of a 5-point increasing Likert scale, instead of using quantities or habits which can present less bias (see Salazar-Ordóñez *et al.*, 2018), being a potential limitation of this research. The observed variables for C4 were also measured by means of a 5-point increasing Likert scale, and those for C2 were measured as binary response variables. C3 contained two observed variables measured using a 5-point increasing Likert scale (X7 and X8) and one binary response (X6). C5 was captured by three variables in which the respondents chose one of the given two options – the healthier option or the other. Finally, it was included one observed continuous variable captured C6 (X15), together with two observed ordinal variables: X16 was codified as 1= less than 4000 lempiras per month, 2= between 4000 and 8000 lempiras per month, and 3= more than 8000 lempiras per month; and X17 was reverse coded (1= more than 51 years old, 2= between 31 and 50 years old, and 3= between 16 and 30 years old).

Partial Least Squares (PLS) path modelling (Wold, 1980) was applied to model the specific relationships between consumers' purchasing behaviour for handmade and locally made agrifood products and the different variables obtained from the theoretical framework. PLS is a multivariate variance-based technique by which the relationships between the observed variables and their latent variables are evaluated, and then the parameters of the structural model are estimated by examining the relationships among the latent variables (Bagozzi & Phillips, 1982). It allows for estimating models containing both constructs modelled as common factors and composites (Henseler *et al.*, 2016). Additionally, it does not impose sample size restrictions or distributional assumptions for the measured variables (Chin, 1998a). Furthermore, this is a novel application of PLS for analysing these types of products in developing countries.

The model derived from the theoretical framework also suggested the existence of a mediator variable (C4), which means that the independent variables influence on a dependent variable through one or more intermediate variables (Baron & Kenny, 1986). As a result, C4 may mediate the influence of the others in the decision to purchase handmade and locally made agrifood products. Our mediation process involves one mediating variable, so it is a straightforward configuration. According to Baron & Kenny (1986), who implement the strictest requirements for testing a mediator role, all of the following must happen: i) the mediator variable significantly affects the dependent variable; ii) the independent variables significantly influence the dependent variable; iii) the independent variables significantly influence the mediator variable; and iv) the effect of the independent variables on the dependent one, when the mediator is acting, should be reduced or be zero.

Several methods for testing mediation have been applied (see MacKinnon *et al.*, 2002). This study focuses on the product of coefficients method using bootstrapping, which is a nonparametric resampling procedure for testing indirect effects through the mediator variable (Preacher & Hayes, 2004; 2008). Indirect effects are composed of the effects of the independent variable on the mediator and of the mediator variable on the dependent one. Thus, the sampling distribution and confidence in-

terval for the ratio of the parameter, which defines the indirect effects, are estimated using sampling with replacement of the data set. According to Mackinnon *et al.* (2002), Preacher & Hayes (2004), and Williams & MacKinnon (2008), bootstrapping overcomes the causal steps proposed by Baron & Keny (1986) and other product of coefficients strategies, such as the Sobel test (Sobel, 1982; 1986), especially for small- and moderate-sized samples, as in our case.

4. Results

ADANCO 2.0 (Henseler and Dijkstra, 2015) was the software employed to test the adequacy of the measurement model such as loadings, composite reliability (ρ_c) and average variance extracted (AVE) (Table 3) and also to estimate the structural model.

As shown in Table 3, most of the item loadings were above 0.7 (Carmines & Zeller, 1979) and were significant at least at the 0.05 level. The loading that was below this threshold (X5) were higher than 0.6, and according to Chin (1998b), allowing loadings over 0.6 is acceptable during the early stages of a scale's development, as the case here is. We note that all the composite reliability coefficients (ρ_c) and average variance extracted (AVE) values exceed the cut-off values of 0.7 and 0.5 (Fornell & Larcker, 1981; Barclay *et al.*, 1995), respectively, indicating that the measures were reliable and that the latent constructs account for at least 50 % of the variance. The composite indicator X15 (members of the household) was not significant ($p > 0.05$), as neither was X13 but they were included for theoretical reasons to complete both the households' socioeconomic characteristics and the drivers for shopping. In addition, Table 4 presents the calculated discriminant validity of the latent variables; first, using Fornell-Larcker Criterion: the square root of the AVE should be higher than the correlations of each latent variable with any other latent variable (Fornell & Larcker, 1981). In addition, a cross-loading table was built (Table A1 in the Appendix), in which each item loading is higher on its own construct than on the other constructs. Second, the Heterotrait-monotrait ratio of correlations –HTMT– resulted lower than 0.85 for the relationship between the constructs, being this threshold the most restrictive one (Henseler *et al.*, 2015).

Regarding the structural model, the variance explained (R^2) was 0.114 for consumption of handmade and local agrifood products (C1) and 0.217 for the use of nutrition labels and health claim information by consumers (C4), which were above the levels recommended by Falk & Miller (1992). Additionally, cross-validated redundancy (Q2) for C1 and C4 was greater than 0 (Chin, 1998a), which implies that the exogenous structural latent variables of the model had enough predictive capacity to reconstruct the theoretical model well. In addition, the Standardized Root Mean Square Residual – SRMR – showed a good approximate fit for the model since the figures (value of 0.076; 0.073 for HI95; and 0.079 for HI99) were under the recommended threshold 0.8 (Henseler *et al.*, 2015). The results of the path coefficients are summarized in Table 5, where the t-values were generated by the bootstrapping procedure using 5,000 re-samples.

TABLE 3
Measurement model and statistics

Construct (C_j) Indicators (X_i)	Loadings Weights	ρ_c	AVE
C_1		0.822	0.698
X_1	0.812***		
X_2	0.858***		
C_2		0.788	0.556
X_3	0.723***		
X_4	0.814***		
X_5	0.692***		
C_3		n. a.	n. a.
X_6	0.550***		
X_7	0.473**		
X_8	0.600***		
C_4		0.812	0.591
X_9	0.822***		
X_{10}	0.761***		
X_{11}	0.719***		
C_5		n. a.	n. a.
X_{12}	0.899***		
X_{13}	0.202 n.s.		
X_{14}	0.678**		
C_6		n. a.	n. a.
X_{15}	0.209 n.s.		
X_{16}	0.801***		
X_{17}	0.468**		

n.a.: Not applicable.

Note: Multicollinearity tests were estimated for the indicators of the formative construct, resulting in Variance Inflation Factor < 3.3 and Condition number < 30.

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; n.s. non-significant based on t-statistic of one-tailed test for $t_{(4,999)}$.

Source: Own elaboration.

TABLE 4
Latent variable discriminant validity coefficients

	Fornell-Larcker Criterion			HTMT	
	C1	C2	C4	C1	C2
C1	0.698*				
C2	0.021	0.355		0.247	
C4	0.040	0.090	0.591	0.335	0.466

* Square root of the AVE.

Source: Own elaboration.

TABLE 5
Results of the structural model: testing hypotheses

	Hypotheses	Path Coefficients	t-value	Hypotheses Results
C2 → C1	H1	0.039 ^{n.s.}	0.555	Not supported
C3 → C1	H2	0.015 ^{n.s.}	0.178	Not supported
C4 → C1	H3	0.164**	2.276	Supported
C5 → C1	H4	-0.051 ^{n.s.}	-0.520	Not supported
C6 → C1	H5	0.256**	2.698	Supported
C2 → C4	H6	0.245***	3.971	Supported
C3 → C4	H7	0.309***	4.486	Supported
C5 → C4	H8	0.159*	1.959	Supported
C6 → C4	H9	-0.005 ^{n.s.}	-0.475	Not supported

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; n.s. non-significant based on t-statistic of two-tailed test for $t_{(4,999)}$.

Source: Own elaboration.

The consumption of handmade and locally made agrifood products (C1) was higher for consumers who considered nutrition labels and health claim information in their purchase decision-making process (C4), supporting H3. Additionally, a significant influence was found between choosing healthier products (C2) and using labels (C4), thus providing support for a positive effect, but there was not a significant impact when examining the relationship between choosing healthier products and buying handmade and locally made agrifood stuffs, which implied that H6 was supported but not H1. Similarly, when decisions were driven by the brand, quality and taste of the products (C5) and healthier lifestyles (C3), the probability of considering agrifood products' labels in purchasing decisions increased, supporting H8 and H7, especially if the latter variable was considered since it displayed the higher impact on label use.

However, those latent variables, C5 and C3, did not significantly influence buying handmade and locally made agrifood products so that H4 and H2 were not supported. Finally, the path of socioeconomic characteristics (C6) was significantly correlated with purchasing agrifood products with handmade and local attributes, supporting H5; thus, the higher the income and the younger the household is, the higher the probability of purchasing, without a significant impact on label use.

The analysis of the mediation effects, which considers consumers' use of nutrition labels and health claim information as a mediator variable, is shown in Table 6.

TABLE 6
Mediating effect results (C4 as a mediator variable)

	Total effects			Indirect effects			Effects without mediator		
	Coefficient	95 % Confidence interval		Coefficient	95 % Confidence interval		Coefficient	95 % Confidence interval	
		Lower	Upper		Lower	Upper		Lower	Upper
C2	0.079 ^{n.s.}	-0.054	0.218	0.040 ^{n.s.}	-0.007	0.107	0.089 ^{n.s.}	-0.021	0.237
C3	0.066 ^{n.s.}	-0.085	0.219	0.051*	0.003	0.104	0.108*	0.014	0.261
C5	-0.024 ^{n.s.}	-0.185	0.183	0.026 ^{n.s.}	-0.007	0.066	0.048 ^{n.s.}	-0.188	0.217
C6	0.255*	0.110	0.397	0.009 ^{n.s.}	-0.025	0.025	0.252*	0.099	0.371

* $p < 0.05$; n.s. non-significant based on t-statistic of two-tailed test for $t_{(4,999)}$.

Source: Own elaboration.

The HTI index (C2) and the Drivers when shopping agrifood products (C5) did not have a significant effect on C1 when the mediator variable was out of the model, i.e., when it was removed, so indirect effects were not significant. There was not any impact of either C2 or C5 on C1. According to Baron & Kenny (1986), the first condition for the existence of a mediating process is a significant relationship between the independent variable and the dependent variable. The Healthy lifestyles (C3) had a significant influence when the mediator was not included and a significant indirect effect on buying handmade and locally made agrifood products; however, when the mediator variable was introduced, C3 no longer had a significant coefficient so full mediation happened. Therefore, C4 mediated the impact of the Healthy lifestyles. Regarding socioeconomic features, the total and direct effects were significant, but the indirect effect was not. These findings pointed out that C4 did not play any mediating role for socioeconomic features.

5. Discussion

This study found that despite the trend that consumers with healthier lifestyles are more prone to purchasing handmade and locally made agrifood products, the

results from Honduras seem to be more related to the reality of developing countries. Most of the studies undertaken in developed countries, such as those by James *et al.* (2009) or Bellows *et al.* (2010), suggest that having healthier lifestyles –including choosing healthy products in one’s daily shopping– is a core factor for the purchase decision-making process of the analysed products. Nevertheless, in this study, having healthier lifestyles does not appear to influence such purchases directly. To a certain extent, the results may indicate uncertainty and a lack of trust in local and handmade food products among Honduran consumers who are worried about their health. The same also happened when consumer decisions were driven by brands, quality and taste. A further assertion found in most of the reviewed literature for developed countries, such as the studies by Weatherell *et al.* (2003), Akaichi & Gil (2009), or Cranfield *et al.* (2012), establishes that these purchase drivers have a positive effect on the consumption of handmade and locally made food. Although, the found consumer tendency does not accord with most of the previous researches for developed countries, it is consistent with the trends showed for developing countries such as Vietnam, Nigeria, the Democratic Republic of Congo and Zimbabwe, where some consumers have a negative perception of their own national products and prefer non-local brands, mainly Western brands (Batra *et al.*, 2000). Here again, the results reflect possible uncertainty and a lack of trust in local and handmade food products among Western Honduran consumers, who may prefer products from abroad due to a perception of higher quality or progress.

Nevertheless, the results also showed a positive relationship between labelling and a higher purchasing rate of handmade and locally made agrifood products among Western Honduran consumers. Thus, the consumption of these products is related to the consideration of labels when making purchases. Previous studies conducted in developed countries have also noted the importance of labelling in increasing purchase intentions for handmade and locally made agrifood products (Bond *et al.*, 2008; James *et al.*, 2009; Conner *et al.*, 2010), especially when the labels provide nutritional information and health claims (Bond *et al.*, 2008; Koutroulou & Tsourgiannis, 2011). In addition, the results indicated a positive relationship between awareness of reading labels and healthier lifestyle characteristics – including choosing healthy products. This is fully consistent with previous findings for developed countries (Wang *et al.*, 1995; Cowburn & Stockley, 2005; Drichoutis *et al.*, 2006; Ollberding *et al.*, 2011) and an emergent economy such as India, where Singla (2010) points out that consumers who are following diets use nutrition labels regularly. Moreover, a relation was found between consumers who were guided by the brand and those who were prone to reading labels, as it is for emerging countries such as China (Siu & Man-yi Tsoi, 1998) and, again, India (Singla, 2010).

Additionally, households with more members, higher income and younger people showed a greater likelihood of making such purchases, but a significant relation was not found between socioeconomic characteristics and reading labels, being the results consistent with those found in developed countries (Akaichi & Gil, 2009; Bellows *et al.*, 2010; Conner *et al.*, 2010).

6. Conclusions

This paper tries to shed light on the analysis of consumer behaviour assessing some of the factors that influence handmade and locally made agrifood purchase decisions in Western Honduras (Occidental Region). The results point to the behaviour by Western Honduran consumers may indicate a negative image of products made in their own country and/or a reluctance to buy handmade or locally made agrifood products because they may not be able to appreciate such products' distinguishing attributes, such as healthiness. Therefore, the link between handmade and locally made agrifood and healthier qualities is not directly observable from those consumers and is not as settled as it is in developed countries. This situation implies a limitation on the expansion of this niche market and, as a result, on the prospects for local economic development via this endogenous mechanism.

As in other countries, Honduras' government can enhance local development through concrete strategies to increase the trust and respect of its citizens towards handmade and locally made agrifood products, which would help to increase purchases of this type of food and develop this strategic market in rural areas. In this regard, Local Economic Development (LED) approaches in developing countries attempt to manage existing resources to stimulate the economy in a well-defined area, which is a core issue in developing marketing methods through the promotion of micro enterprises. In Honduras, some measures have been undertaken in order to effectively implement an LED approach, but a more effective presence of the central government is necessary to develop a national quality control system for handmade and locally made agrifood products to provide assurances to consumers about the products' safety and quality to attach some intangible values to them (as it happens in developed countries). Such a system, with effective quality control and due diligence throughout the production process, would help to mitigate hazards and risks and would ensure that the products are safe and are of the desired quality. In the same manner that the country has created mechanisms to control the traceability and quality of products oriented towards exportation, which benefit the largest producers, similar structures can be applied to handmade and locally made agrifood production, which would generate a positive impact among micro enterprises and small producers and, consequently, in the alleviation of poverty.

Moreover, additional measures can be designed to increase the consumption of handmade and locally made agrifood products. One measure could be proper labelling, which has previously been observed an appropriate way to reach consumers who are concerned about health, quality, brands and taste. Here, governmental support would be indispensable to promote the existence of an official certification seal that guarantees the fulfilment of high standards of quality in the production process and in the final products and that can also strengthen consumers' confidence. Moreover, it is also essential to design and implement an awareness-raising campaign focused on these types of food products that can inform consumers about their qualities compared to industrially processed foodstuffs.

It seems clear that the market for these types of products is currently underdeveloped, which may be affecting the aim of alleviating poverty and generating local development in rural areas. In this regard, the link between handmade and locally made products and health could be enhanced to endow these products with added value and a clear differentiation strategy linking these products with intrinsic and extrinsic quality and a feeling of self-fulfilment related with the concept of progress.

7. References

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Annex 1. Discriminant validity

TABLE A1
Individual discriminant validity

	C1	C2	C4
X1	0.8085	0.1099	0.1396
X2	0.8539	0.1346	0.1931
X3	0.0963	0.7202	0.2245
X4	0.0944	0.6892	0.1815
X5	0.1335	0.8106	0.2563
X9	0.1225	0.2715	0.8189
X10	0.1435	0.2211	0.7573
X11	0.2092	0.1902	0.7158

Source: Own elaboration.