Consumers' Attitudes Towards Organic Food in Brazil:
A Structural Equation Modelling Study

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Abstract

The organic food sector has been growing consistently in both developed and developing countries, as Brazil has ranked 12th in terms of land destined to organic agriculture. As organic food implies production without chemical inputs, consumers are attracted to this kind of food for health and environmental concerns. Consequently, the organic food sector growth has been consumer-driven, resulting in a huge amount of studies conducted worldwide about consumer behaviour towards organic food. Very few studies, however, have used factor analysis or structural equation modelling (SEM). This article aims to fill this gap by analysing the factors behind consumers' purchase decisions regarding organic food in Brazil through the SEM approach. A survey was administered by means of face-to-face interviews to residents of Sorocaba, a 650-thousand people city located in the State of São Paulo. After discarding the questionnaires with problems, 430 remained for empirical analyses. The results show that most of the respondents are willing to buy organic food and agree to pay for it up to 25% above the price of non-organic. The main determinants of attitude and willingness-to-pay are subjective norms, trust on organic food and concerns regarding health and environmental issues.

Key-words: *consumer behaviour; consumer preferences; health consciousness; environmental consciousness; willingness-to-pay.*

JEL Classifications: *C38, C83, D12, D46.*

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1. Introduction

The organic food sector has been growing consistently worldwide, as 172 countries were already producing organic foods in 2014, with an estimated value of US$ 80 billion (Willer and Lernould, 2016). Among them, Brazil was ranked 12th with more than 700,000 hectares of land destined to organic agriculture. Although the definition of organic food varies from place to place and from author to author, a common ground is the requirement of not using chemical inputs in the production systems. Given such attribute, consumers choose organic foods mainly for two reasons (Pérez et al., 2012): to improve their health and to prevent environmental damages.

Considering that consumers' concerns about health and environmental issues associated with conventional agriculture have been the major determinant of organic agriculture growth, the organic food sector can be said to be consumer-driven. For this reason, many studies conducted in many parts of the world have examined consumer behaviour towards organic food by means of diverse methodologies. Almost all studies use primary data from first-hand sources collected by means of questionnaires and other instruments, but while most use only descriptive statistics[2], others adopt more rigorous statistical procedures, such as probit, tobit and logit analyses[3]. A few studies have also used factor analysis[4] and at least one of them (Voon et al., 2011) uses structural equation modelling (SEM), what seems to be a very promising method to group consumer behavioural variables. Regarding Brazil, the vast majority of the studies done in the country[5] are descriptive, not allowing more accurate interpretation.

In this context, the purpose of this paper is to analyse the factors behind consumers' purchase decisions about organic food in Brazil by means of descriptive statistics as well as by estimating a structural equation model and, therefore, drawing helpful information for stakeholders such as academics who are researching this topic, private investors planning to enter or expand their investments in the organic sector, and government officials interested in

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[2] See for instance, McCarthy and Murphy (2013), Pérez-Vázquez et al. (2012), Nokic et al. (2014), Zhang et al. (2016), Sangkumchaliang and Huang (2012), among others

[3] Some of the representative papers that used probit, tobit or logit approaches, are: Skuza et al. (2015), Owusu and Anifori (2013), Illichmann and Abdulai (2013), Haghiri et al. (2009), Irandoust, (2016), Campbell et al. (2014), Kuhar and Juvancic (2010), etc.

[4] Likewise, representative papers using factor analysis are: v. Meyer-Höfer et al. (2013) and Voon et al. (2011).

[5] For studies conducted in Brazil, see Cunha (2006), Rodrigues et al. (2009), Avelar (2012), Faro (2013) and Hoppe et al. (2013), among others.

using organic agriculture as a way to increase income of small-holder farmers. The study is conducted in Sorocaba, a medium-sized industrial city with a 650-thousand population located in the State of São Paulo, the most prosperous and populous state in Brazil. Although the results cannot be generalised to the whole country, they can at least reflect the predominant way consumers behave in Brazilian cities with similar characteristics. The research also contributes methodologically owing to the scarcity of studies applying structural equation modelling to organic food consumption.

2. Empirical methods

In this section we describe the process of data collecting, which was done by means of a survey following the contingent valuation approach, and the empirical proceedings used to analyse such database.

2.1. Data gathering

The information required to estimate the empirical model was collected by means of face-to-face interviewing applied to consumers at several supermarket stores located in different neighbourhoods of Sorocaba, between January and February of 2017. The city was divided into four zones and the number of interviews in each zone was roughly proportional to the zone's population. Inside the retail stores, the target respondents were adults of both sexes and the interviewees were chosen randomly. Moreover, the fact that the interviews were done face-to-face helped to make sure that the respondents had understood the questions properly before answering them.

In order to calculate the number of respondents (the sample size), we use Cochran's (1977) formula for finite populations, considering a city's population (N) of 652,481 people[6], a confidence interval of 95% (implying $z=1,96$ and error $e=0,05$), and assuming $p=q=0,5$. The sample sizes for infinite (n_0) and finite (n) populations are:

$$n_0 = \frac{z^2 pq}{e^2} \Rightarrow n = \frac{n_0}{1 + \dfrac{(n_0 - 1)}{N}} = 384 \text{ questionnaires.}$$

Based on this estimation, our goal was to administer at least 384 questionnaires. As some of them are usually discarded for representing outliers (such as protest responses) or to ensure that genders and neighbourhoods are properly represented in the sample, we conducted a total of 480 interviews, being women 55% of the respondents. After discarding the questionnaires

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[6] This is IBGE's (2017) projection for Sorocaba's 2016 population.

that presented some of the problems mentioned above, 430 questionnaires remained for data analysis.

The questionnaire's design was first pre-tested in a pilot study with 47 people. Based on the outcome of the pilot study, we built the final version of the questionnaire composed of 37 questions, as each question originates one observed variable[7]. All variables are eligible for descriptive statistics analysis, but not all of them are used in the SEM analysis as the method has some limitations that impede reaching a solution with a very large number of variables.

The observed variables obtained by means of the questionnaire refer to the following issues: (1) socioeconomic characteristics; (2) knowledge about organic food; (3) perception of food characteristics; (4) trust in organic food; (5) health consciousness; (6) environmental consciousness; (7) subjective norms; (8) accessibility: convenience and cost; and (9) willingness to pay for organic food. The variables followed each of three measuring modes according to their nature: a) scores in a scale from zero to 10; b) binary answers; and c) preference ordering. In addition, the question about households' income (questionnaire's question 8) uses a type of ruler where each respondent should mark by her/himself the proper position of her/his household's monthly income if it was less than or equal to R$ 15,000.00 (where "R" represents Brazilian currency "Real"), and a blank space where the respondent should write down the income value if it was greater than R$ 15,000.00 a month[8]. There are also questions that admit more options, such as on what kind of organic food consumers prefer (question 36) and on WTP (question 37), where the respondent must choose one of several options.

The set of questions regarding demographic characteristics, identifying aspects such as gender status, age, marital status, family size, educational background and income, was answered in a separate piece of paper and dropped into a box by the respondents themselves. This practice is supposed to originate more accurate answers about private matters for not exposing the respondents to possible embarrassment. The remaining questions were asked by the interviewers, who were also in charge of writing down the answers.

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[7] In this section we focus on the main characteristics of the information gathering process. More details about the questionnaire can be found in Appendix 1. The x's in front of the questionnaire's questions will be used to identify the observed variables throughout the article.

[8] Equivalent to £3,836.32 a month. All references to British pounds sterling in this paper consider an interest rate of R$ 3.91/£ published by Brazilian Central Bank for 24 March 2017 (BCB, 2017).

2.2. Modelling

Byrne (2016) defines the structural equation modelling (SEM) method as a statistical methodology that takes a **confirmatory** approach, rather than the explanatory approach of older generation multivariate procedures, to analyse a structural theory related to a phenomenon. The SEM method involves representing the causal processes under study by a series of structural equations, which can be modelled pictorially enabling a cleared conceptualization of the theory (Byrne, 2016). The model is composed by observed and unobserved (latent) variables. While the observed variables can be measured directly, the latent ones are measured indirectly by means of their relations with observed variables. Moreover, the latent variables can be of two types, exogenous or endogenous, where the former causes variations to the latter.

The SEM approach combines properties of causal econometric models with factorial analysis and follows three steps (Rosa, 2002): first, formulation of hypotheses on causal relationships among variables; second, definition of the structural equation model, involving latent and observed variables; and third, estimation of the variables' coefficients.

To hypothesise about the causal relations among variables, we rely on some developments of both behavioural and consumer theories[9]. According to Voon et al. (2011) and Hoppe et al. (2013), based on the concepts developed by Ajzen's (1991), key determinants of organic food consumption are attitudes and subjective norms. **Attitude** is the way a person acts or reacts towards an object (organic food, in our case), evaluating it against alternatives based on her/his thoughts, beliefs and emotions (Voon et al., 2011). Health consciousness, environmental consciousness and trust on organic food attributes are the main attitudes associated with organic food demand according to the literature. **Subjective norms** are social influences on a person's behaviour, as consequence of individuals' tendency to replicate the behaviour of people they admire and to reflect the environment that surround them. In addition to these two factors, **accessibility** (included in the concept of "behavioural control" by Voon et al., 2011) is a necessary condition for consumption because organic foods must be both available and affordable to be purchased. The hypotheses are that the three sets of variables affect positively consumers' willingness to pay and purchase organic food, what means that the individual's willingness to pay for and to buy organic food will increase when she/he has higher levels of health and environmental consciousness, has stronger belief on

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[9] For a comprehensive discussion of these concepts applied to organic food purchase, see Padel and Foster (2005).

organic food attributes, is surrounded by favourable opinions about organic food and has more access to a variate of organic foods.

Following Voon et al. (1991) we estimate a structural model, as shown in Figure 1, to test the impact of observed variables (represented generically as x_i) originated in our questionnaire[10], exogenous latent variables, one endogenous latent variable and the willingness to pay (WTP) for organic food. To make things simple, we use the same symbol "ε" to represent each of the different error terms that affect each of the variables. The exogenous latent variables are: trust in organic food ("trust"), accessibility to organic food ("accessibility"), environmental concerns ("environment"), health concerns ("health") and subjective norms ("norms"), while the endogenous latent variable is "attitude".
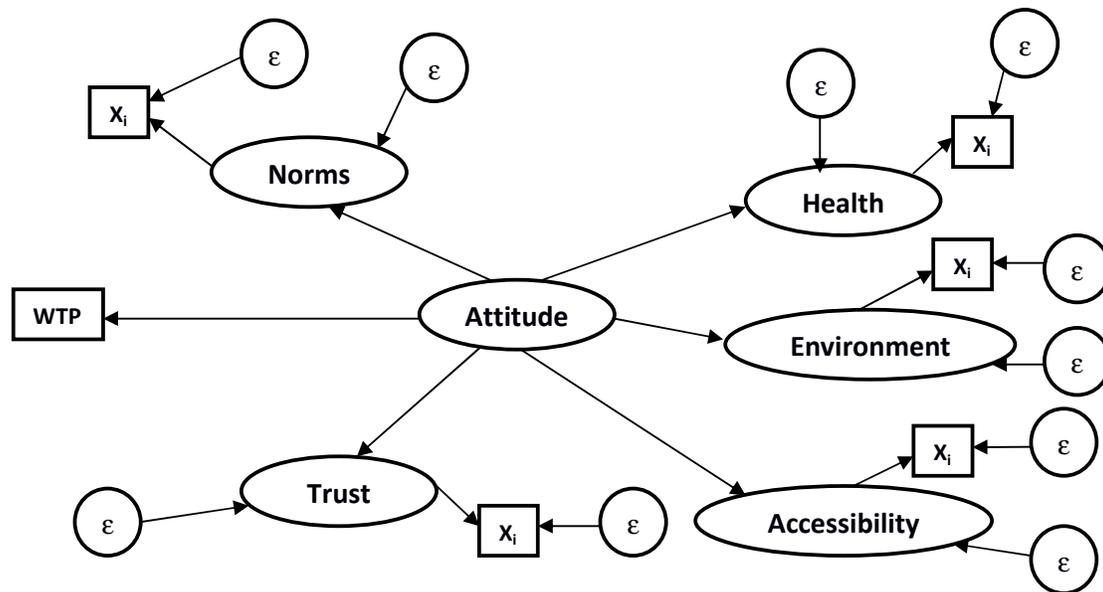

Figure 1. SEM's first version for organic food consumption in Brazil.

Note: "Health" is health consciousness; "Environment" is environmental consciousness; "Trust" is trust in organic food claims; "Accessibility" is how accessible organic food is; "Attitude" is the attitude towards organic food; "Norms" are subjective norms; "WTP" is willingness to pay; and "x_i" represents observed variables obtained by means of the questionnaire; and ε" represents each of the different error terms.

This structure is actually the starting point because the number of exogenous latent variables included in the model is very large, what makes its convergence to a solution very

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[10] Only a few of them are represented in Figure 1. Potentially, many more observed variables are tested in the model.

unlikely. Beyond this basic structure we try several formulations aiming to reach a solution both feasible and consistent with our theory. In this process, some of the observed variables might be discarded as well as some of the latent variables can be discarded or two or more of them can be combined forming a new one.

3. Results

We start using descriptive statistics to analyse diverse aspects regarding the answers obtained applying the questionnaire. This analysis is important because not all variables will fit in the SEM, so the descriptive analysis allows to explore additional aspects of our sample. Moreover, as the variables have diverse ways of measurement, we use different instruments do expose them, such as tables (Tables 1 and 2) and pictures (Figures 2 and 3).

Table 1 reports descriptive statistics for socio-economic variables. Most of the respondents are between the ages of 25 to 44 (57.6%), married (64%), females (55%), without children (61%) and have at least high school education (92%), as 44.9% are college graduates. Besides, 88% of the respondents participate in household's purchase decision. The average per capita income is equivalent to 530.04 British pounds sterling (£) a month[11], but the range goes from £61.38 to £8,951,41, with approximately 90% of the respondents earning less than £1,000 per capita monthly.

Table 1

Descriptive statistics for socio-economic variables collected in the sample

Parameters	Mean	Std. dev.	Minimum	Maximum
x_1: Age (years)	36.78	11.72	18	72
x_2: Gender (2 if female, 1 if male)	1.55	0.50	1	2
x_3: Marital status (2 if married, 1 if single)	1,64	0,48	1	2
x_4: Have children[2]	1.39	0.49	1	2
x_5: How many children	1.14	1.19	0	8
x_6: How many people in the house	3.18	1.35	1	10
x_7: Education (years of schooling)	12.93	2.84	0	22
x_8: Per capita income (R$ per month)	2,072.47	2,393.51	240.00	35,000.00
x_9: Participate in the purchase decision[1]	1.12	0.33	1	2

[1] One is yes, two is no.

[11] Considering an interest rate of R$ 3.91/£ referring to 24 March 2017 (BCB, 2017).

Looking at other variables, Table 2 shows that the vast majority of the interviewees claim to know the meaning of organic food (84%), consider organic food healthier (97%) and less harmful to the environment (95%), consider organic food better than non-organic (94%) and are already willing to buy organic food (92%). Among the respondents who are still unwilling to buy organic food, 83% would change their minds if organic food was cheaper. It is also noticeable that consumers have good sensorial expectation regarding organic food, as 75% of them consider that organic food tastes better than non-organic and 78% believe that organic food has more sensorial appeal.

The questions whose answers were scores from zero to ten show that consumers value highly food quality (8.65), environmental quality (8.08) and, a little less, price (7.75) and origin (7.44). They also believe that pesticides are harmful (8.80) and, therefore, are concerned about chemical residues on food (7.84). On the other hand, they consider that it is not ease to find organic food do buy (5.05), in spite of most of them (66%) claiming that they find organic food in the stores where they usually shop. This apparent contradiction reflects the fact that most consumers find organic food to buy, but not exactly the sort of products they are looking for.

Table 2

Descriptive statistics for the additional information collected in the sample

Parameters	Mean	Std. dev.	Minimum	Maximum
x_{10}: Price is important[1]	7.75	2.17	0	10
x_{11}: Quality is important[1]	8.65	1.72	0	10
x_{12}: Origin is important[1]	7.44	2.73	0	10
x_{13}: Concerned about environment[1]	8.08	2.46	0	10
x_{14}: Know what organic food means [2]	1.16	0.36	1	2
x_{15}: Hear about organic food often[1]	6.44	2.59	0	10
x_{16}: Think organic food is free of chemicals[2]	1.45	0.50	1	2
x_{17}: Believe pesticides are harmful[1]	8.80	1.88	0	10
x_{18}: Concerned about residues on food[1]	7.84	2.53	0	10
x_{19}: Known people eat organic food often[1]	4.79	2.84	0	10
x_{20}: Known people recommend organic food[2]	1.57	0.49	1	2
x_{21}: Have eaten labelled organic food[2]	1.42	0.49	1	2
x_{22}: Only labelled products are organic food[2]	1.64	0.48	1	2
x_{23}: Without a label, trust in the seller[2]	1.57	0.50	1	2
x_{24}: Prefer buying organic food from farmers[3]	1.37	0.48	1	2
x_{25}: Organic food taste better[2]	1.25	0.43	1	2
x_{26}: Organic food has more sensorial appeal[2]	1.22	0.41	1	2
x_{27}: Organic food is healthier[2]	1.03	0.18	1	2
x_{28}: Organic food is less harmful to environment[2]	1.05	0.21	1	2
x_{29}: People consider organic food better[2]	1.44	0.50	1	2
x_{30}: You consider organic food is better[2]	1.06	0.25	1	2
x_{31}: Find organic food where you usually shop[2]	1.34	0.47	1	2
x_{32}: Consider that organic food is ease to find[1]	5.05	2.51	0	10
x_{33}: Willing to buy organic food[2]	1.08	0.27	1	2
x_{34}: Would buy more if it was cheaper[2]	1.02	0.14	1	2
x_{35}: Would buy only if it was cheaper[4]	1.17	0.38	1	2

Note: organic food represents organic food.

[1] Zero (lowest level) to ten (highest level).

[2] One is yes, two is no.

[3] One is farmer, two is retailer.

[4] One is yes, two is no. This score refers to 36 respondents who answered "no" in question x_{33}.

Regarding the premiums that consumers are willing to pay for organic food, in addition to the mean value reported in the bottom line of Table 1, Figure 2 shows the frequency of choices of respondents. We can see that 16% of the respondents are not willing to pay anything in addition for organic food. The majority would pay a premium inferior to 25% (62% of the interviewees) and almost 19% of them would pay between 25% and 50%. Only 3% of the respondents would be willing to pay more than 50% of premium for organic food.
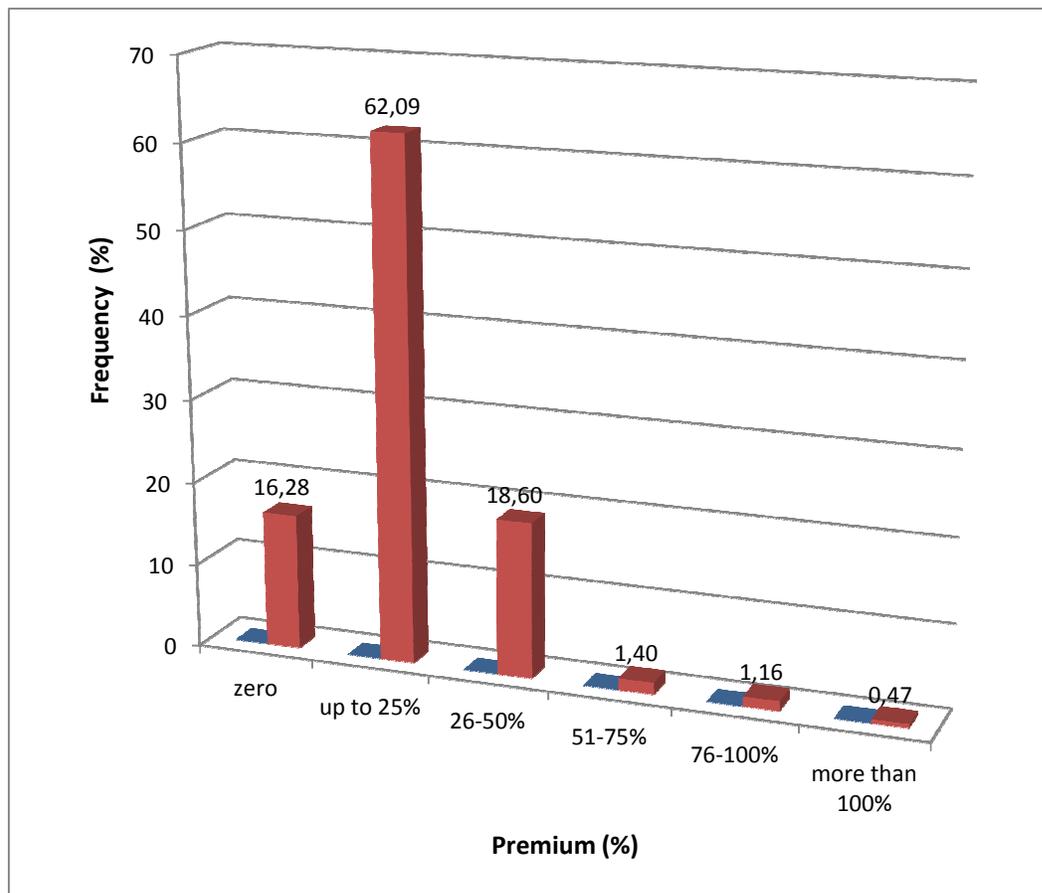

Figure 2. Frequency of consumers and the premiums they are willing to pay for organic food above the price of non-organic (%).

Figure 3 brings some information on the kind of organic food consumers would rather buy, referring to variable x_{36} of questionnaire. Clearly, vegetables and fruits are the main kinds of organic food sought by consumers, as more than 95% of the consumers indicate that they would buy such products, while only 40% admit buying other kind of organic food.

Moreover, vegetables are the first option for more than 64% of the respondents, fruits are the first option for almost 30% and other products are first option for only 6%.
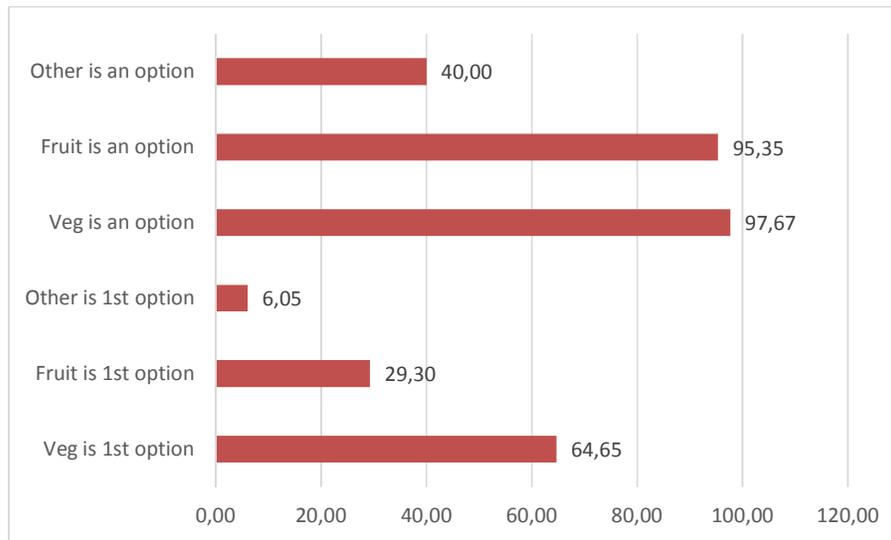

Figure 3. Choices of organic food: vegetables, fruits and other organic food (in % of respondents).

Regarding the structural equation model, given the impossibility of reaching a solution estimating the model represented in Figure 1, many other options were tried until we achieved the structure presented in Figure 4. In this picture we only represent the variables and the links among them. The model converged to a solution after 11 iterations and some indicators of goodness-of-fit are reported in Table 3, the estimates of the coefficients are in Table 4 and the full representation of the SEM including the factor loadings, extracted from the estimation conducted through Strata's software[12] is presented in Appendix 2.

In this model, four variables related to both health and environmental consciousness are treated conjointly: x_{11} = focus on quality; x_{12} = focus on origin; x_{13} = environmental concerns; and x_{18} = concerns with chemical residues. We also admitted that the errors of two observed variables, x_{13} and x_{18}, are correlated, what enhanced the model. Two factors related trust are considered: x_{22} = only labelled products are considered organic and x_{23} = trust in the seller if product is not labelled, where the effects are positive for the former and negative for the latter (see Table 4), assuring that consumers do not trust in unlabelled organic food. The third exogenous latent variables to affect "attitude" is "norms", which is constructed by means of

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[12] We conducted all econometric analysis by means of Strata/MP 13.0 for Windows.

four factors: x_{15} = frequency of listening people talking about organic food; x_{11} = focus on quality; focus on quality; positive and the effect of focus on quality; x_{20} = known people recommend organic food; x_{19} = frequency of eating organic food by relatives and friend; and x_{31} = presence of organic food in the stores where usually go (meaning that the consumer is "surrounded" by organic food). The model has attitude as an endogenous latent variable affected by the other three latent variables and, in sequence, affecting WTP. From the latent variables represented in Figure 1, "accessibility" needed to be removed and the variables "health" and "environment" needed to be combined to enhance model fit.
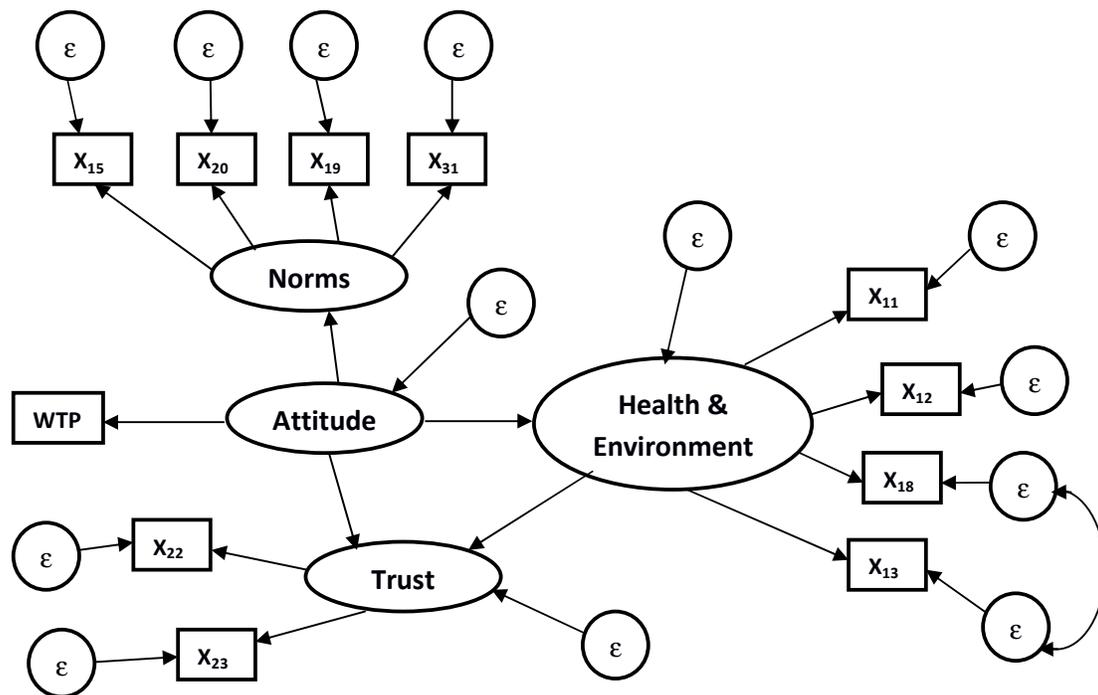

Figure 4. SEM's best version for organic food consumption in Brazil.

Note: "Health & Environment" is health and environmental consciousness; "Trust" is trust in organic food claims; "Attitude" is the attitude towards organic food; "Norms" are subjective norms; "WTP" is willingness to pay; and "x_i" represents observed variables obtained by means of the questionnaire; and ε" represents each of the different error terms. For details, see Appendix 2.

According to four indicators of goodness-of-fit reported in Table 3, the last version of the SEM ranks between "good" and "very good", depending on the index. Moreover, the scores of AIC (Akaike's information criterion) and BIC (Bayesian information criterion) indicated that this version of the model is superior to other versions tested previously.

Table 3

Indices of Goodness-of-fit statistics of SEM's last version

Goodness-of-Fit	Estimated Values	Evaluation*
$\chi^2_{/DF}$	1.596	Good
RMSEA	0.037	Very good
CFI (Comparative Fit Index))	0.962	Very good
TLI (Tucker-Lewis Index)	0.947	Good (very good if ≥0.95)

* Evaluation based in Marôco (2010).

Table 4 shows the factor loadings estimated for the SEM, where we can see that all parameters are significant at the level of 1%, with the exceptions of the factor linking "H&E" and trust, which is significant at the level of 10%. The relation between "attitude" and "norms" has the largest estimate and is positive, showing that there is a strong correlation between the environment surrounding a person and her/his attitude towards organic food. The relation between "attitude" and the other two latent variables is also positive, whereas "attitude" tends to be stronger when people are more concerned about health and environment and when the marketing system provides them trustfulness.

Regarding the relationship between observed and exogenous latent variables, most of the signals are according with the expectations, as is the case of "trust" which indicates that consumers trust more in labels than on sellers. In relation to "H&E", all observed variables are positively correlated with this variable, as expected. The relation between "norms" and its observed variables is the only one which brings some unexpected signals, as x_{20} and x_{31} are negative. In the first case, it might be an indication that people are more influenced by other people's behaviour than for advice, but in the second the expected signal was certainly positive, as people having more contact with organic food is supposed to be more willing to buy such products.

Table 4

Parameters estimates of SEM's last version of the SEM

Paths and estimations	Factor Loadings	Standard error	p-value
Norms ← Attitude	0.984	0.159	0.000
Trust ← H&E	-0.280	0.147	0.056
Trust ← Attitude	0.456	0.172	0.008
H&E ← Attitude	0.539	0.097	0.000
X_{15} ← Norms	0.456	0.055	0.000
X_{20} ← Norms	-0.431	0.056	0.000
X_{19} ← Norms	0.686	0.052	0.000
X_{31} ← Norms	-0.244	0.058	0.000
WTP ← Attitude	0.276	0.062	0.000
X_{23} ← Trust	-0.622	0.118	0.000
X_{22} ← Trust	0.560	0.108	0.000
X_{13} ← H&E	0.576	0.042	0.000
X_{11} ← H&E	0.456	0.045	0.000
X_{18} ← H&E	0.516	0.046	0.000
X_{12} ← H&E	0.886	0.042	0.000

4. Conclusion

In this paper we analysed the behaviour of consumers towards organic food in Brazil. We could identify that most of consumers are concerned about health and environmental issues, are aware of risks associated to eating food with chemical residues and are willing to pay a premium in order to consume organic food. By means of a structural equation model, we identified "attitude" as a key variable to influence willingness-to-pay (WTP) for organic food, and identified subjective norms, health and environmental issues, as well as trust in organic food, as determinants of attitude.

The structure identified in this research is a consequence of a higher access to education faced by most Brazilians recently, as our sample indicates, and also of a higher access to worldwide information through internet, cable TV and other sources of information technology. As most Brazilians, even low-incomers, are connected to internet by means of mobile phones and computer, they are exposed to a wide range of information about health and environmental issues as well as they are influenced by opinions and life-style of people of

the whole world. Consequently, subjective norms along with health and environmental concerns affect significantly consumers attitude making them more willing to pay for organic food.

Other potential determinants of attitude were removed from the model, otherwise the model would not converge to a solution. This difficulty to reach a solution with all variables imagined initially could due to improper definition of some variables or improper survey design, or even owing to intrinsic limitations of the SEM approach to handle a very large number of latent variables. It is remarkable, however, that some of the variables which were removed, such as accessibility, were not significant in other studies either. In conclusion, despite the removal of some variables, the model estimated in this research is theoretically consistent and opens new possibilities for enhancement in future research projects.

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Appendix 1 - Questionnaire Questions and correspondent variables

x_1: How old are you?

x_2: What is your gender status?

x_3: What is your marital status?

x_4: Do you have children?

x_5: How old are your children?

x_6: How many people live in your house?

x_7: How many years have you studied?

X_8: Use the ruler to mark the gross monthly income of your household. If it is greater than R\$ 15,000, write the value here: ___
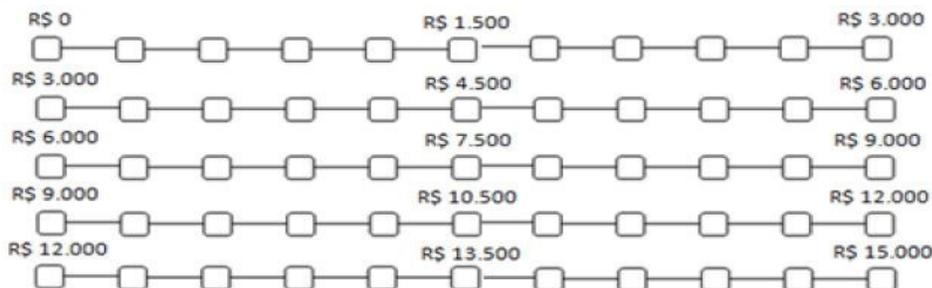
x_9: Do you participate on food purchase decision? ( ) Yes ( ) No

x_{10}: When buying food, do you consider the price an important factor? 0____10

x_{11}: Are you concerned with the quality of the food you eat? 0____10

x_{12}: Are you concerned with the origin of the food you eat? 0____10

x_{13}: Are you concerned about environmental issues, such as biodiversity, deforestation, pollution, global warming, etc? 0____10

x_{14}: Do you know what the term "organic" means? ( ) Yes ( ) No

x_{15}: How often do you hear people speaking about organic food? (almost never) 0____10 (very often)

x_{16}: Do you consider that organic foods are free of any chemical inputs including pesticides? ( )Yes ( )No

x_{17}: Do you believe that pesticides (chemical products used in the conventional agriculture) have negative effects on the environment (soil, animals, rivers, etc.)? 0____10

x_{18}: Are you concerned that some products might have chemical residues, despite the quantities? 0____10

x_{19}: How often your family or even your close friends eat organic food? 0____10

x_{20}: Do the people who are close to you recommend you to eat organic food? ( )Yes ( )No

x_{21}: Do you remember having consumed a product with an organic product label? ( ) Yes ( ) No

x_{22}: Do you only consider organic foods the ones which are labelled? ( ) Yes ( ) No

x_{23}: When sellers offer you a product as being organic, do you trust them even without labels? ( ) Yes ( ) No

x_{24}: Do you prefer buying organic food from farmers (without label) or from retailers (with label)? ( ) Farmer ( ) Supermarket

x_{25}: Do you think that organic foods generally taste better than non-organic? ( ) Yes ( ) No

x_{26}: Do you think that organic foods have more sensorial appeal (better smell, texture, colour,…)? ( )Yes ( )No

x_{27}: Do you believe that organic foods are healthier than non-organic? ( ) Yes ( ) No

x_{28}: Do you think that organic foods are less harmful to the environment than non-organic? ( ) Yes ( ) No

x_{29}: Given the public opinion, do you think people consider organic food better than non-organic?( )Yes ( )No

x_{30}: Considering all parameters, do you think that organic food is better than non-organic? ( ) Yes ( ) No

x_{31}: Do you find organic food in the stores where you usually shop? ( ) Yes ( ) No

x_{32}: How do you evaluate the difficulty of finding organic foods? (unavailable) 0____10 (easily found)

x_{33}: Are you willing to buy organic food? ( )Yes–go to question 34 ( )No–go to question 35

x_{34}: Would you buy more organic food if it was cheaper? ( ) Yes ( ) No

x_{35}: Would you buy organic food if it was cheaper? ( ) Yes ( ) No

x_{36}: What kind of organic food would you buy? Order your preference from 1 to 3: ( ) Vegetables ( ) Fruits ( ) Other (sugar, honey, etc.)

x_{37}: How much would you pay for organic foods above of you would pay for non-organic (price premium)? ( ) 0; ( ) up to 25%; ( ) 26%-50%; ( ) 51%-75%; ( ) 76%-100%; ( ) more than 100.

Appendix 2 – Structural Equation Model Specification – Extracted from Strata's estimation