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Determinants of Willingness To Pay for sustainable products: a study using Healthy Lifestyle and Environmental Awareness

Victor Henrique Medronha da Silva[1], Robson Andreazza[2], Everton Anger Cavalheiro[3], Marcela Afonso[4], Ázlan Lakus Pretto[5]

[1]Federal University of Pelotas, College of Business and Tourism, Pelotas, Brazil
[2]Professor at Federal University of Pelotas, Engineering Center, Pelotas, Brazil
[3]Professor at Federal University of Pelotas, Engineering Center, Pelotas, Brazil
[4]Federal University of Pelotas, Engineering Center, Pelotas, Brazil
[5]Federal University of Santa Maria, Engineering Center, Santa Maria, Brazil

Correspondence Author: Everton Anger Cavalheiro, Professor at Federal University of Pelotas, Engineering Center, Pelotas, Brazil
E-mail:- *eacavalheiro@hotmail.com*

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Abstract

Consumer buying behavior, in addition to the factors that precede it, has been highlighted as a key element for the adoption of more sustainable production processes. Willingness To Pay (WTP) for sustainable products, as well as a strong indication of consumers' perception of value, can be seen as an important strategic tool in search for competitive advantages. This way the main of this research sought to identify which constructs related to this buying behavior and how the interactions between them relates in the formation of consumer's WTP for sustainable products. For that, the quantitative research method was used, through the survey technique, where 216 consumers were interviewed in different commercial locations in Brazil. Also, with the intuition to test the instrument, a pre-test was carried out with 12 master degree students, with research areas adhering to the area of this research. Using the chosen methodological procedure, it was started by the preliminary treatment of the data, checking the existence of outliers through the Hadi test. As a result, 3 multivariate outliers observations were found, which was disregard in this research. After analyzing the data, it was possible to identify the constructs recognized as predictors of Willingness To Pay for products with sustainable attributes . In the end, as a result, it was possible to confirm that a healthy lifestyle is correlated with consumer's Environmental Awareness and Environmental Awareness is correlated with WTP. It was also verified that these connections have a moderating effect on variables such as income and schooling.

Keywords: Willingness To Pay, Environmental Awareness, Healthy Lifestyle

INTRODUCTION

The sustainable development topic has become increasingly present in the agendas of researchers and organizational decision-makers, in addition to attract society's attention. Among the many questions related to sustainability, consumer's buying behavior has been highlighted as a key element for companies to start adopting alternative production processes, as much for the concern with socio-environmental aspects as for the search for differentiation and competitiveness in the market.

In this context, some companies started to motivate their employees towards creative innovation, focusing on the possibilities offered by sustainable practices (Hautamäki, 2010). According to Bossle et al. (2015), organizational decision makers have innovated in this subject to explore new technological opportunities, as a method to react to consumer demand and lifestyle changes. Thus, products out coming from these new processes are now recognized as sustainable by consumers for its attributes.

Many studies have tried to identify the main characteristics of green products consumption, or the psychology behind these consumers' behavior (Blok *et al.*, (2015), Maniatis (2016); Lanzini, Testa and Iraldo (2016)), studies are focused on evaluating psychometric variables for this purpose. In this process, the variables interact influencing the consumers' final decision (Iraldo *et al.* (2011)). However, what is not yet known, is how the interactions between these variables that precede the consumption intention for products with sustainable attributes are given.

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Among the constructs found in the literature as predictors of sustainable purchasing behavior is Environmental Awareness, composed of attitudinal, behavioral and cognitive attributes (Schlegelmilch; Bohlen; Diamantopoulos (1996)), which can be directly related to the purchasing behavior, mainly when it refers to the consumption of products with attributes that are recognized as sustainable. On the other hand, Environmental Awareness, can be preceded by the Healthy Lifestyle (Gil, Gracia, Sánchez (2000)), having a corelation with the construct. In view of the above, this research seeks to answer the following question: how are Willingness To Pay (WTP), Environmental Awareness and Lifestyle related to the willing to purchase green products?

2. THEORETICAL BACKGROUND

2.1. Willingness To Pay (WTP) for Green Products

Products with sustainable attributes are often priced differently in comparison to regular ones. Demirgüneş (2015) identifies that companies seek for profits and the need to compensate increased production costs, are likely to be converted into higher prices. A theory that has been widely used to explore market situations in which products have attributes that give them differentiation is Willingness to pay (WTP). According to Zeithaml et al. (1996), Willingness to pay is one of the main dimensions of consumer behavioral intent.

The concept makes it possible to identify the maximum price a consumer will pay for a given product unit (Varian, 1992). The study of WTP, which is quite recurrent in the areas of marketing and applied microeconomics, can be evaluated for the purpose of formulating competitive strategies, defining better pricing criteria and developing new products or services (Anderson, Jain, & Chintagunta, 1993). According to Breidert, Hahsler and Reutterer (2006), companies that do not know their customers' WTP accurately may face difficulties in establishing a customized pricing strategy for their marketing environment, running the risk of wasting opportunities to increase profitability in the markets in which they act.

When consumers recognize value in a product, they tend to express high levels of willingness to pay and low willingness to search for alternative options (Owino, Muturi, & Wadawi, 2014). These results indicate that a greater willingness to pay more for a particular attribute of a product may indicate a greater perception of value by the consumer. When the product in question has sustainable attributes, environmental and social values are perceived, being ecological purchasing behaviors positively related to WTP (Lanzini et al., 2016).

2.2. Environmental Awareness

Environmental Awareness can be seen as a multidisciplinary construct composed of attitudes, behaviors and cognitive processes (Schlegelmilch et al., 1996). Thus, Environmental Awareness is directly related to how the individual behaves in their everyday consumer attitudes, taking into account the perception of their role in environmental issues.

The level of environmental awareness and concern, therefore, must be reflected through attitudes, which may be manifested during the purchasing decision processes. Aguirre et al. (2003) corroborates this idea, stating that awareness of environmental problems is a determining factor for awareness and, consequently, for conscious and ecological consumption.

Lages and Vargas Neto (2002) state that green or ecologically conscious consumers are represented by those who seek products that has the smallest ecological footprint. A conscious consumer associates the act of buying, or consuming products, with the possibility to act in accordance with environmental preservation (Akehurst, Afonso, & Martins Gonçalves, 2012). Thus, according to Hailes (2007), conscious individuals avoid purchasing products that they perceive to pose health risks, excessive power consumption or damaging environment during production, use or final disposal, or even have excess packaging.

In addition to the purchasing dimensions of conscious consumption, the behavioral aspect of these consumers identifies their self-perception of their socio-environmental role, recognizing their share of responsibility in environmental problems. This can be reflected through habits such as: avoiding waste of water and electricity, disposing or reusing waste in an appropriate way, and preferring agroecological certified foods (Waldman & Schneider, 2000).

2.3. Healthy Lifestyle

Lifestyle tends to have a broader impact on factors that precede a purchase intention, reflecting the individual's choices about how to spend their time and money (Solomon, Dahl, White, Zaichkowsky, & Polegato, 2014). From an economic point of view, Zablocki and Kanter (1976) define lifestyle as the way one chooses to allocate his income in choosing different products or services, as well as choosing specific alternatives within these categories.

From the categorization of different lifestyles, under a marketing point of view, Solomon et al. (2014) affirms that it is possible to establish different market niches, once people are divided into affinity groups. In the food products area, the author also points out that the set of patterns of food and drink consumption, known as food culture, may reflect the values of a social group, which can be driven by tastes, traditions and, often, by the focus on health.

Issues related to healthy habits linked to sustainability principles can be found in a specific market segment, called LOHAS (Lifestyles of Health and Sustainability). According to Szakály et al. (2017), LOHAS is a niche market, identified from a specific segmentation model, characterized by having as main determinants of the responsible attitudes of its consumers for the environment and society. Thus, the segment composed of individuals who are aware of their social role and have internal determinant values, which has made this niche a target for many marketing activities (French & Rogers, 2007). Among the aspects highlighted as defining the behavior of LOHAS' consumers lifestyle, we highlight the search for authentic and local products, search for health, social responsibility ethics, values of individualism and Environmental Awareness (Rácz, 2013).

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3. METHODOLOGY

For the development of this paper, the quantitative method was chosen, using research survey technique. According to Hair et al. (2013) quantitative research allows to measure and compare constructs related to behaviors, habits and opinions of a population, from a statistically significant sample, which coincides with the purpose of the present study. The data collection occurred in a random and spontaneous manner in fairs and supermarkets in Brazil, along with consumers who attended the commercial establishments visited.

With the intuition to test the instrument, a pre-test was carried out with 12 master degree students, with research areas adhering to the area of this research. In this context the questionnaire was answered and the necessary adjustments were identified for the full understanding of future interviewees. Next, the instrument was submitted to the evaluation of three specialists (doctors linked to a stricto sensu program) with expertise in research of this kind, and no changes were suggested. Only after these analyses the questionnaire was accepted.

3.1. Research instrument

The dependent variable evaluated in this work was the Willingness To Pay (WTP). To measure it, the respondents were asked to indicate the percentage value they would be willing to pay more for a product, considering the different sustainable attributes presented. In this way, consumers evaluated and indicated their WTP from six possible answers: 0% more, up to 5% more, 5% up to 10% more, 10% up to 25% more, 25% up to 50% more or more than 50%.

The independent variables were measured using a six-point Likert scale, in which the respondents had to state how much they agreed with the statements presented to them, with a value of 1 representing "totally disagree", 2 representing "partially disagree ", 3 represents" neutral ", 5 represents" partially agree" and value 6 represents" totally agree ". Below (Table 1) are the variables and sources used.

Table 1: variables used in the study

Construct	VAR	Variable	Source
Willingness To Pay	DAP1	Product free of pesticides	Batte et al. (2007)
	DAP2	Product free of transgenics	Loureiro and Hine (2002); Batte et al. (2007)
	DAP3	Uses waste as input or as raw material	Curi (2011); Karanjeet (2013)
	DAP4	Reusable, recycled or recyclable packaging	Annunziata; Scarpato (2014)
	DAP5	Generates income for small local suppliers or low-income communities	Underhill; Figueroa (1996); Williams; Hammit (2000); Papadopoulos (2004); Annunziata; Scarpato (2014)
Environmental Awareness	CA1	Before throwing something in the bin, I think about how I could reuse it or recycle it.	De Young (1990); Tucker (2001)
	CA2	I usually buy products and packaging made from recycled material or that can be recycled.	De Young (1990); Roberts (1996); Straughan and Roberts (1999); Tucker (2001); Portilho (2005); Hailes (2007)
	CA3	I usually buy organic products.	Hailes (2007)
	CA4	I try to buy biodegradable cleaning products.	Dias (2015); Roberts (1996); Straugan e Roberts (1999); Waldman e Schneider (2000); Portilho (2005); Hailes (2007); Afroz et al. (2013); Frederiks, Stenner and Hobman (2015)
Healthy Lifestyle	EV1	I practice exercises regularly.	Gil, Gracia and Sánchez (2000)
	EV2	I avoid eating processed foods.	
	EV3	I eat fruits and vegetables often.	
	EV4	I do health exams regularly.	
	EV5	I have a balanced diet.	

4. RESULTS AND DISCUSSIONS

Among the 216 respondents that constitute the sample, 73 are male, corresponding to 34% of the sample, and 143 are female, accounting for 66% of the total sampled. Another important characteristic, in view of the objective of this research, refers to the heterogeneity of age groups of the respondents: (i) with 18 years or less were 6 (3%) respondents; (ii) from 19 to 29 years old were 87 (40%) responders; (iii) from 30 to 39 years old were 40 (19%) respondents; (iv) from 40 to 59 years old were 65 (30%) respondents; (v) from 60 to 79 years were 17 (8%) respondents; and vi) with more than 80 years there was only one respondent.

Using the chosen methodological procedure, it was started by the preliminary treatment of the data, checking the existence of outliers through the Hadi test. As a result, 3 multivariate outliers observations were found, which presented values for the Hadi distance test above 10. Therefore, we opted to eliminate such observations from the survey, which caused the number of data to decrease from 216 to 213 valid observations. After a confirmatory factorial analysis of each construct was carried out.

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Finally, the structured model was measured. The model initially proposed (control model) had a significant X^2 (118.227), but the X^2 / df index presented an acceptable adjustment (1.970 <3). However, the values of GFI (0.924), NFI (0.896), CFI (0.945), TLI (0.928) and RMSR (0.075), as well as op (0.000) were found to be all at odds with that recommended in the literature, with the exception of RMSEA (0.068), which suggested a change in the initially proposed structured model, in order to obtain a better fit.

From the observation of the modification indexes of the model, it was possible to identify that for some of the constructs indicators, there was a need to include covariance of errors. According to Hair et al. (2009), this adjustment, suggested for the model adjustment, indicates that these indicators do not have high correlation with others. Thus, we opted for the exclusion of variables DAP3, DAP5, CA3 and EV5, as an alternative to the model so the adjustment indexes were within the acceptable standard.

The variables X^2 / df (0.707), GFI (0.983), NFI (0.965), CFI (1.000), TLI (1.023), RMSEA (0.000), RMSR (0.032) and (X) p = 0.856) showed acceptable values, as can be seen in Table 2.

Table 2 - Structure model adjustment indices

Indexes	Control model	Alternative model	Expected values
Chi-square (X^2)	118.227 (df=60)	17.673 (df=25)	-
Chi-square / degree of freedom	1.970	0.707	< 3
P value	0.000	0.856	>0.050
GFI	0.924	0.983	>0.950
NFI	0.896	0.965	>0.950
CFI	0.945	1.000	>0.950
TLI	0.928	1.023	>0.950
RMSR	0.075	0.032	<0.050
RMSEA	0.068	0.000	<0.080

After the evaluation of the structured model's adjustment index, the convergent validity was evaluated with the standardized factor loads for each one of the indicators. It was identified that the coefficients presented values above 0.500, considered acceptable by Hair et al. (2010). A graphical representation can be visualized in Figure 1.

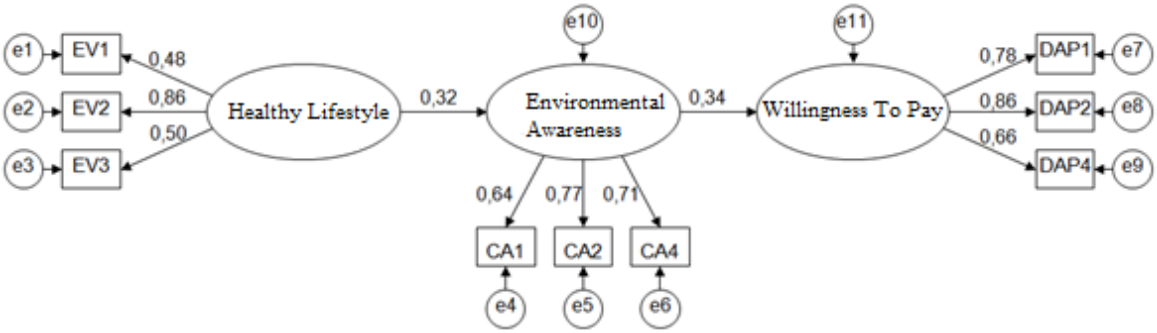

Figure 1 - Final structural equations model, with coefficients

The last test was the multigroup confirmatory factorial analysis, which has the purpose to evaluate the moderating effect of the income and schooling variables on the correlation between the constructs of the model. The first control variable chosen tested was the average family income, which made after dividing the database into two groups of respondents: low income and high income. In response to this analysis, it was possible to identify that, according to the chi-square difference test (ΔX^2), it was not possible to confirm the null hypothesis, which says that tested groups are invariant (p = 0.056), meaning that the structured model obtains different answers for the groups of individuals separated according to the income variable.

The second variable tested through multigroup analysis was schooling. In the same way, the database was divided into two groups, now composed of individuals of low schooling and high schooling. Unlike the previous control variable, the ΔX^2 test returned confirmation that the groups are invariant (p = 0.924), the groups are statistically the same for the structured model. In Table 3, the chi-square and degrees of freedom values obtained in the multi-group analysis and non-restriction models can be checked.

Table 3 - Chi-square difference test (ΔX^2)

Control variable	Model	Chi-square (X^2)	Degree of freedom (DF)	*p-value*	Invariant
Income	Free	43.416	50	0.06	no
	Restricted	58.569	58		
Education	Free	51.818	50	0.92	yes
	Restricted	53,772	56		

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As shown in Figure 1, it was possible to observe a positive relation (H1) between Environmental Awareness and the consumer's higher willing to pay for sustainable products. Likewise, it was possible to verify that Healthy Lifestyle has positive relation (H2) with Environmental Awareness of the consumers, relations are significant at p = 0.050.

With the results obtained for the H1 hypothesis it was possible to reinforce what has been stated by Aguirre (2003), regarding the tendency of the individuals committed to the environment, a commitment that was treated by Environmental Awareness, to express behaviors that contemplate sustainability. Taking into consideration that individuals with a higher environmental awareness tend to present higher Willingness To Pay for products with attributes that are recognized as sustainable, it can be concluded that they also tend to perceive possibilities of environmental or social gains linked to these attributes, relation established by a Demirgüneş (2015) study. According to the same author, consumers expressing higher WTP hardly seek alternative products. Considering this correlation we can assume that a conscious consumer, who has a perception of value inclined to the ideals of sustainability, will hardly seek another option when identifying a product that contemplates its values.

This relation between the constructs can also be attributed to the fact that some consumers position themselves as critical social actors, and their purchase intentions are not only a result of a utilitarian rationality or even of irrationality, but also view consumption as a citizen act, according to Portilho's affirmation (2005). Specifically, individuals with high levels of Environmental Awareness will actively support initiatives that contribute to sustainability promotion, and the preference and appreciation of products with sustainable attributes may be one of these forms of support. Consumption is a socio-cultural activity which points to the fact that Environmental Awareness, buy itself, does not shape consumer's intention to buy, but it is part of a social relations system that shape behaviors and, consequently, consumption habits.

Regarding the results obtained for the H2 hypothesis, it was possible to confirm the relation suggested by Gil, Garcia and Sánchez (2000) between lifestyle and Environmental Awareness. Their study had related the lifestyle to Willingness To Pay for organic foods, and in this study it was possible to relate the construct directly to Environmental Awareness. The authors also claim to be a key constructs in explaining the consumption of organic products, arguments that can be reinforced by the results obtained in this research, with the differential of covering all possible products that have sustainable attributes judged as valuable by consulted consumers.

These relations can be considered in planning appropriate promotional strategies by organizational decision makers, for example, by highlighting the sustainable attributes of products on their package. A study developed by Cho and Baskin (2018), indicates that sustainable seals in food packaging tend to be more efficient when associated with health images. The authors also came concluded that, even if motivated by lay beliefs, consumers often perceive healthy foods as sustainable, while unhealthy foods are perceived as unsustainable.

Therefore, the results obtained for the H2 hypothesis suggest that individuals who take account health aspects in choosing products, especially with regard to food quality, usually act in function of their Environmental Awareness, which in turn can be seen as a predictor of a greater appreciation of the attributes of sustainability, causing these consumers to manifest a higher WTP.
Regarding the results of the invariance tests, it was possible to observe that the monthly family income was the control variable that most impacted the way consumers responded to the proposed model. The relation between Environmental Awareness and WTP, for example, tends to be stronger among consumers with higher purchasing power. It is still common to understand that low-income individuals prioritize to meet their basic needs - such as food, housing and transportation. Perhaps these priorities are ahead of the valuation of sustainable attributes, at least when it implies to pay more. It does not mean that these individuals do not value sustainable products, or that they have a lower Environmental Awareness, but that other factors, such as limited purchasing power, may be more decisive in this behavioral.

The schooling as a control variable, it was not possible to prove direct influence of on sustainable purchasing behavior. However, although the two tested groups were not statistically different, it was possible to verify a higher standard deviation occurrence for the estimated coefficients in this model, when the tested group was of individuals with low schooling. In addition, the higher education group, as well as the higher income groups, obtained lower confidence intervals, presenting no negative lower limit. These results indicate that the model has better explanatory power for groups of individuals with higher education and higher income.

5. CONCLUSIONS

The final structural equations model (Figure 1) allowed an increased interpretation of interactions between the constructs surveyed. After analyzing the data, it was possible to identify the constructs recognized as predictors of Willingness To Pay for products with sustainable attributes, which was chosen to treat WTP. In addition, we tried to establish how the relations between the constructs that precede this type of consumption behavior and the indicators that best explain them.

In this investigation, it was possible to confirm a positive relation between Healthy Lifestyle and the level of Environmental Awareness of the consulted consumers. It was also possible to relate the Environmental Awareness of these consumers to WTP. It should be noted that this WTP was measured by the contingency method, where the respondents indicated the percentage they would pay more for the sustainable attributes presented to them.

Such results may be considered by producers, managers, entrepreneurs or marketers in formulating promotional strategies, both for market segments linked to Healthy Lifestyle of consumers, and for segments that can be identified from the population levels of Environmental Awareness. In addition, due to the invariance tests applied, it was possible to obtain indications that products with sustainable attributes are still part of a specific market segment, and that better performances can be obtained from actions directed to a most schooled public and higher family income.

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Promotion and advertising actions for sustainable products can be formulated according to the needs of this broad segment. In addition, the valuation of sustainability attributes by consumers can be improved by encouraging the adoption of healthier living habits, in addition to the traditional calls for awareness of environmental issues.

The relations established from the developed analysis model may serve as basis for developing new researches, such as proposing more complex models, establishing new connections and integrating other constructs, since we know that a multitude of indicators have the capacity to interfere with consumer buying behavior. In addition, there is also a possibility of testing the mediating effect of different control variables that may influence the relations between the constructs of the proposed model.

REFERENCES

Afroz, R., Masud, M. M., Akhtar, R., & Duasa, J. B. (2013). Survey and analysis of public knowledge, awareness and willingness to pay in Kuala Lumpur, Malaysia–a case study on household WEEE management. *Journal of Cleaner Production*, *52*, 185-193.

Aguirre, M. S., Aldamiz-Echevarría, C., Charterina, J., & Vicente, A. (2003). El consumidor ecológico. Un modelo de comportamiento a partir de la recopilación y análisis de la evidencia empírica. *Distribución y Consumo*, *67*, 41-54.

Akehurst, G., Afonso, C., & Martins Gonçalves, H. (2012). Re-examining green purchase behaviour and the green consumer profile: new evidences. *Management Decision*, *50*(5), 972-988.

Anderson, J. C., Jain, D., & Chintagunta, P. K. (1993). Understanding customer value in business markets: Methods of customer value assessment. *Journal of Business-to-Business Marketing*, *1*(1), 3-30.

Annunziata, A., & Scarpato, D. (2014). Factors affecting consumer attitudes towards food products with sustainable attributes. *Agricultural Economics/Zemedelska Ekonomika*, *60*(8).

Batte, M. T., Hooker, N. H., Haab, T. C., & Beaverson, J. (2007). Putting their money where their mouths are: Consumer willingness to pay for multi-ingredient, processed organic food products. *Food policy*, *32*(2), 145-159.

Blok, V., Wesselink, R., Studynka, O., & Kemp, R. (2015). Encouraging sustainability in the workplace: a survey on the pro-environmental behaviour of university employees. *Journal of cleaner production*, *106*, 55-67.

Bossle, M. B., Pacheco, N. A., Menezes, U. G. d., & Barcellos, M. D. d. (2015). Roupas com apelo ecoinovador: o país de origem é importante? *IJBMkt-International Journal of Business & Marketing. Porto Alegre. Vol. 1, n. 1 (2015), p. 28-42*.

Breidert, C., Hahsler, M., & Reutterer, T. (2006). A review of methods for measuring willingness-to-pay. *Innovative Marketing*, *2*(4), 8-32.

Cho, Y.-N., & Baskin, E. (2018). It's a match when green meets healthy in sustainability labeling. *Journal of Business Research*, *86*, 119-129.

Curi, D. (2011). *Gestão Ambiental*. São Paulo.

De Young, R. (1990). Recycling as appropriate behavior: a review of survey data from selected recycling education programs in Michigan. *Resources, Conservation and Recycling*, *3*(4), 253-266.

Demirgüneş, B. K. (2015). Relative importance of perceived value, satisfaction and perceived risk on willingness to pay more. *International Review of Management and Marketing*, *5*(4), 211-220.

Dias, G. F. (2015). *Atividades interdisciplinares de educação ambiental*. São Paulo: Global Editora e Distribuidora Ltda.

Frederiks, E. R., Stenner, K., & Hobman, E. V. (2015). Household energy use: Applying behavioural economics to understand consumer decision-making and behaviour. *Renewable and Sustainable Energy Reviews*, *41*, 1385-1394.

French, S., & Rogers, G. (2007). Understanding the LOHAS consumer: The rise of ethical consumerism. *The LOHAS Journal, Natural Marketing Institute, Harleysville, PA*.

Gil, J. M., Gracia, A., & Sanchez, M. (2000). Market segmentation and willingness to pay for organic products in Spain. *The International Food and Agribusiness Management Review*, *3*(2), 207-226.

Hailes, J. (2007). *The new green consumer guide*: Simon & Schuster London.

Hair, J. F., Black, W. C., Babin, B., Anderson, R., & Tatham, R. (2010). *Multivariate data analysis*.

Hautamäki, A. (2010). *Sustainable innovation: a new age of innovation and Finland's innovation policy*: Sitra.

Iraldo, F., Testa, F., Melis, M., & Frey, M. (2011). A literature review on the links between environmental regulation and competitiveness. *Environmental Policy and Governance*, *21*(3), 210-222.

Karanjeet, K. (2013). *Social Entrepreneurship: An alternative solution for solid waste problem in Kathmandu city*. Universitetet i Nordland.

Lages, N. d. S., & Neto, A. V. (2002). Mensurando a consciência ecológica do consumidor: um estudo realizado na cidade de Porto Alegre. *Anais do 26º ENANPAD, Salvador, BA*.

Lanzini, P., Testa, F., & Iraldo, F. (2016). Factors affecting drivers' willingness to pay for biofuels: the case of Italy. *Journal of cleaner production*, *112*, 2684-2692.

Loureiro, M. L., & Hine, S. (2002). Discovering niche markets: A comparison of consumer willingness to pay for local (Colorado grown), organic, and GMO-free products. *Journal of Agricultural and Applied Economics*, *34*(3), 477-487.

Maniatis, P. (2016). Investigating factors influencing consumer decision-making while choosing green products. *Journal of cleaner production*, *132*, 215-228.

Owino, E. O., Muturi, F. M., & Wadawi, J. K. (2014). Antecedents of customer perceived value: Evidence of mobile phone customers in Kenya.

Papadopoulos, N. (2004). Place branding: Evolution, meaning and implications. *Place branding*, *1*(1), 36-49.

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Portilho, F. (2005). Consumo sustentável: limites e possibilidades de ambientalização e politização das práticas de consumo. *Cadernos Ebape. br*, *3*(3), 01-12.

Rácz, G. (2013). *The Effect of the Trend of Value Changes and Sustainable Development on the Hungarian Food Consumption.*, Szent István University, Gödöllö, Hungary.

Roberts, J. A. (1996). Green consumers in the 1990s: profile and implications for advertising. *Journal of business research*, *36*(3), 217-231.

Schlegelmilch, B. B., Bohlen, G. M., & Diamantopoulos, A. (1996). The link between green purchasing decisions and measures of environmental consciousness. *European journal of marketing*, *30*(5), 35-55.

Solomon, M. R., Dahl, D. W., White, K., Zaichkowsky, J. L., & Polegato, R. (2014). *Consumer behavior: Buying, having, and being* (Vol. 10): Pearson London.

Straughan, R. D., & Roberts, J. A. (1999). Environmental segmentation alternatives: a look at green consumer behavior in the new millennium. *Journal of consumer marketing*, *16*(6), 558-575.

Szakály, Z., Popp, J., Kontor, E., Kovács, S., Pető, K., & Jasák, H. (2017). Attitudes of the Lifestyle of Health and Sustainability Segment in Hungary. *Sustainability*, *9*(10), 1763.

Tucker, P. (2001). Understanding recycling behaviour. *Paper technology*, *42*(9), 51-54.

Underhill, S. E., & Figueroa, E. E. (1996). Consumer preferences for non-conventionally grown produce. *Journal of food distribution Research*, *27*, 56-66.

Varian, H. R. (1992). *Microeconomic analysis*: W. W. Norton & Company.

Waldman, M., & Schneider, D. M. (2000). *Guia ecológico doméstico*: Editora Contexto.

Williams, P., & Hammitt, J. (2000). A comparison of organic and conventional fresh produce buyers in the Boston area. *Risk Analysis*, *20*(5), 735-746.

Zablocki, B. D., & Kanter, R. M. (1976). The differentiation of life-styles. *Annual Review of Sociology*, *2*(1), 269-298.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *the Journal of Marketing*, 31-46.