

**PREFERRED PRODUCT ATTRIBUTES AND CONSUMER VALUES IN THE BRAZILIAN
ETHICAL COSMETICS MARKET**

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1 INTRODUCTION

Sustainability has become a main subject on both political and economic discussions of the 21st century due to the undeniable consequences of environmental degradation since the industrial revolution in the 18th century. Some authors, as Green et al. (2004), go even further on the origins of human action on Nature, dating it back to the first effects of human nomadism, most noticed in the change of course of rivers and cultivation next to water sources.

It was found in previous research papers that a significant number of cosmetic items present risks to the entire biosphere as evidenced by cases such as titanium dioxide used in sunscreen lotions (Weir et al., 2012), links between tampons and TSS (toxic shock syndrome) (Strizhakova & Coulter, 2015) and parabens, preservatives present in the composition of a large number of cosmetics with proven negative impacts on male fertility (Oishi, 2002). Another important point to be explored in this field is the use of animal testing to certificate the products' safety for human beings. The rise of concern towards animal abuse gave protagonism to organizations like People for The Ethical Treatment of Animals (PETA). Although we do not intend to discuss the merits of their claims against traditional industry, its impact on public opinion is undeniable (Badyal & Desai, 2014; Ranganatha & Kuppast, 2012).

All those concerns generated a demand for more ethical attributes in cosmetic products, apart from the traditional concerns with efficiency, brand reputation and price (Connelly, 2013), indicating that consumers are starting to pay attention to the ethical attributes behind the products they buy. Those attributes include organic ingredients, no potentially harmful substances, no animal testing and re-usable or recyclable materials in packaging (Euromonitor, 2018).

Because Brazil is privileged with an abundance of natural resources (Fonseca-Santos, 2015), there is a proliferous environment to promote and empower social engagement in more sustainable and ethical alternatives of production for beauty industry. For such task, however, it is necessary to provide more data on Brazilian ethical consumers to obtain a clarification on what customers expect from an ethical product in terms of attributes.

Therefore, our research problem involves understanding what consumer prefers in ethical cosmetics and what personal values lie behind those choices. Therefore, the objective of this study investigate the preferences of ethical cosmetics attributes for Brazilian consumers as well as their values in order to elaborate a marketing strategy to best combine those characteristics.

1.2 Objectives

In order to respond to the proposed research problem, this work aims to achieve a general objective and some specific objectives. Those are described below:

1.2.1 General Objective

To investigate the preferences of ethical cosmetics attributes for Brazilian consumers as well as their values in order to elaborate a marketing strategy to best combine those

characteristics.

1.2.2 Specific Objectives

The secondary objectives that have been outlined in order to support the general objective are the following:

- a) To acknowledge previous data on consumer behavior in the ethical cosmetics market;
- b) To identify the preferred attributes in the Brazilian context and the values shared by consumers;
- c) To establish the weight of each attribute
- d) To delineate a consumer profile for ethical cosmetics in regards to values and preferences found;

2 LITERATURE REVIEW

2.1 Consumer Choice

Since 1960s, consumer behavior research has gained a significant acceleration, being one of the most important subjects among the areas of marketing (Kollat et al., 1970). Schwartz (1991) defines the consumer choice model as a “decision-making” problem, which includes a list of variables deeply described by Kollat et al. (1970) and reaffirmed by Solomon (2006) on the steps of conventional decision-making:

- (a) to recognize a problem;
- (b) to evaluate alternative solutions to the problem, partly by an internal search of information about routine decisions and partly by an external search for relevant information about complex new problems;
- (c) to buy the product or service;
- (d) to evaluate the decision, the purchase and its outcome.

2.2 Preferred attributes and consumer values

According to Brechan (2006, p. 442) “primary product attributes are essential in providing a solution to a specific problem the customer seeks to resolve and does often identify an object or an event as a specific product or service”, meaning that all attributes that are not essential to solve the customer’s problem can be considered secondary. This is a review of Keller’s (1993) product related attributes (PRA) and non-product related attributes (NPR), meaning the first are related to intrinsic characteristics of the product (e.g. ingredients) while the other consists of more subjective aspects that surround it and need to be efficiently identified in order to establish successful marketing strategies. The four types of NPRA according to Keller (1993) are:

The four main types of non-product-related attributes are:

- (1) price information
- (2) packaging or product appearance information;
- (3) user imagery (i.e., what type of person uses the product or service);
- (4) usage imagery (i.e., where and in what types of situations the product or service is used).

2.2.1 Attributes in ethical cosmetics

Scientific findings also forced the market to adapt and the rise of awareness among consumers contributed to a change in business as usual in the cosmetics industry. Studies like the one conducted by Csorba & Boglea (2011) have alerted about the potentially hazardous components found in common cosmetics products, such as *Phthalates*, lead, petroleum products, *Mercury* and *Formaldehyde*. As the authors explain “the rising environmental consciousness and health awareness among consumers, as well as the desire for sustainability are fueling the growth” of “‘organic and’ near-natural’ segments”. (Csorba & Boglea, 2011, p.175). After performing an online survey with 207 individuals on ethical cosmetic products, Yeon et al. (2011) found confirmatory evidence of the importance of making the products affordable, also highlighting environmental consciousness and product safety as main drivers for the purchase of ecological personal care products. Thompson and Kidwell (1998) had previously explored the choice for organic produce, finding, at the time, a sensibility by shoppers to price differences between organic items and the traditional ones. The most probable buyers belonged to households with teenagers under eighteen, with graduates and professionals being less likely to engage in such habits.

However, according to Schuitema and DeGroot (2014), the fulfillment of ethical attributes is also dependent on how effectively self-serving attributes are being satisfied. The experiment conducted by the authors used a moisturizer as an example and price levels were tested against environmental concerns, showing a greater balance between green attributes when prices were high. Their experiment then allowed to conclude that “overall biospheric values [respecting the earth, unity with nature, preventing pollution and protecting the environment] seem to have more impact on how people use product attributes for their purchases than egoistic attributes [being ambitious, wealth, authority, status and recognition]” (Schuitema & DeGroot, 2014, p.62). However, “the influence of green product attributes is less strong when consumers’ self-interest motives are not fulfilled that is, when prices are high and a brand is unfamiliar” (Schuitema & DeGroot, 2014, p.64).

Gan et al. (2008, p.100) corroborate with those views, adding that: “traditional product attributes such as price, quality, and brand are still the most important attributes that consumers consider when making green purchasing decision”. A focus group conducted by Maggioni et al. (2013) with non-buyers of organic beauty items pointed out a lack of clear information available on the market about the characteristics and specificities of ethical products and of ethical cosmetics in particular. The fact that traditional media do not depict organic products with frequency or depth contributes to deviation and confusion about organic Personal Care Products (PCP).

When Ghazali et al. (2017) investigated consumers’ intentions to re-purchase organic PCP, the study found that hedonic value has the strongest influence in purchasing attitude compared to health, safety and environmental values. It was even stronger than the variable “product knowledge”, which concerns the product’s usability and limitations. Therefore, it is possible to establish that self-fulfilling may have an important correlation with the expansion of the ethical cosmetics’ market. For that reason, this variable was brought to our study looking for an understanding of its role in consumer decision according to our sample.

2.2.2 Values, Attitudes and Lifestyles Scale (VALS)

This work aims to understand the role played by personal beliefs in the development of new practices of consumption in the cosmetics market and in order to do so, a psychometric approach using a scale of values is a recommendable method (Fraj & Martinez, 2016). The “Values and Lifestyle Scale” (VALS) was developed from Maslow’s need hierarchy and the concept of social character. It was created by Stanford Research Institute (SRI) as seen in Figure 2, a research organization located in California by the end of the 1970s.

The main objective of VALS was to create a tool that would allow some predictability based on peoples' attitudes and beliefs. According to Mowen and Minor (1998), VALS offers multiple managerial advantages, such as:

- a) **Positioning and differentiation:** VALS allows marketing managers to find exact targets, thus making it possible to position and differentiate way more accurately.
- b) **Research:** In order for psychographs to be well done, the investment must be made. It is important that the product positioning is appropriate to the segment on which it is acting.
- c) **Marketing mix:** the psychographic characteristics have implications in the marketing mix. The identified psychographic characteristics of the targeted audience should be used to define advertising strategies.
- d) **Segmentation:** this is the most important concept for management use. VALS is an empirical tool that assists in the identification of the target market, dividing it into more homogeneous subgroups with similar needs, will and desire.

Its applications go from marketing strategies to economical and sociological studies. For that purpose, a group of 35 questions was designed in order to identify how people's lifestyles could be connected to their values through statistical and theoretical means as seen in Figure 2. The questions include attitudes as well as demographic aspects. VALS has been applied successfully with consumers of environment-friendly products (Fraj & Martinez, 2006).

The application of VALS has gone from scholarly and scientific circles to many companies, such as AT&T, New York Times, Penthouse, Atlantic Richfield and Boeing Com (Kahle et al., 1986). According to Fraj and Martinez (2006), VALS allows a psychographic segmentation system which is able to predict consumer behavior more accurately than other scales and provides a higher level of analysis by producing eight possible profiles.

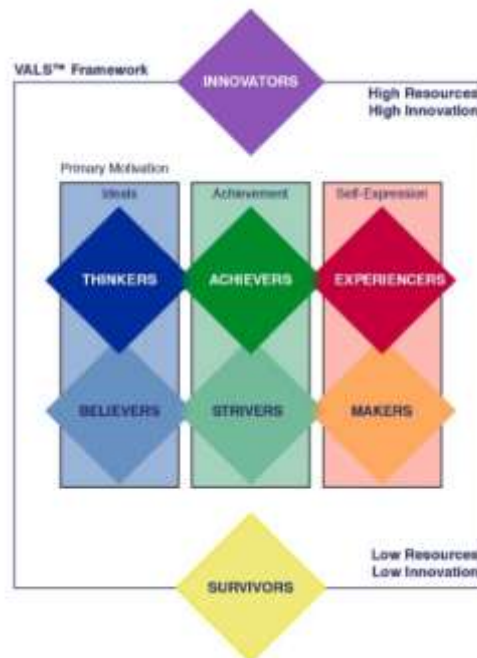


Figure 2 – Structure of VALS

Source: SRI Consulting Business Intelligence (2006)

2.3 Ethical Cosmetics Market

The concept of a more ethical beauty industry gained its current form in the eighties,

when the idea of less harmful and more environmentally-friendly products became a worldwide trend, achieving millions of consumers (Connelly, 2013) due to ethical predicates, such as organic composition, natural scents, social justice concerning the workforce, no animal testing, among others (Roddick, 1991). Despite the controversial discussions on the legitimacy of many products and brands concerning their ethical attributes, the numbers show a positive acceptance of the conscientious appeal for beauty products with a projected mark of US\$15.98 billion in 2020, according to Grand View Resource (2015).

Concerning all that background information and following Klein Group's (2018) definitions, we are considering as ethical cosmetics as three basic categories: natural, organic and vegan. It is important to highlight that while all organic products are necessarily natural, not all natural products are organic (some being made under synthetic raw materials) and while vegan products intersect both natural and organic categories, there are a significant number of products in this category that do not meet natural and organic criteria (Klein Group, 2018).

While there's a positive tendency for this sector in the Brazilian market (Mendonça, 2018), its growth is still uncertain. So far, a projection for all Latin America shows that it holds less than 5% of the global market for ethical cosmetics (Ecovia Intelligence, 2018).

Following reports by Euromonitor (2018), the green care industry is expected to show significant growth due to:

- a) The decreasing growth rates of the traditional disposable markets or even its decline in certain markets.
- b) Share of organic/natural cosmetics will become bigger and bigger as retailers expand.
- c) Because they tend to be more expensive, green cosmetics movements will have more impact in developed economies. While they will also show increasing growth rates in third world economies, it tends to be slower.

Bigger industry players such as Procter & Gamble are starting to notice this tendency. In 2017, P&G launched pure cotton towels in China under one of its many brands called *Whisper* in response to a demand for less toxic components in women's sanitary products, such as tampons. A Korean feminine group called Ecofem conducted a survey in 2016 to test levels of toxicity in women's menstrual products. Apart from generating a public discussion that led Korean government to take action, Ecofem's research created more interest in sustainable and safe feminine care companies operating in the country (Euromonitor, 2018).

The industry for PCP has a multiple category richness, going from makeup and skin treatments to every-day hygiene care such as tampons, diapers, toothpastes, toothbrushes and waxing. Regarding makeup and skin treatment, some important brands are leading the way towards change. Organic brand Yves Rocher is the sixth in market share in Germany while WALA Heilmittel GmbH, which is distributed in Brazil, has conquered 2% of market share in the German beauty market. Dr Hauschka is another German certified natural brand worth mentioning. It has achieved 0.4 % share 2017. In the USA, only Urban Decay Cosmetics LLC showed special focus on cruelty free and vegan policies, still there are no indications that the products are natural or organic. Its actual market share is unknown though it had 2% of the market in 2012. In the market of sanitary protection for women, as an example, organic products make up only about 2-4% of the market.

The disposable market is already seeing slower growth rates, and is even declining in certain markets. As consumers shift to organic products, consumption of traditional disposables will decline (Euromonitor, 2018). In the 2017 Consumer Lifestyles Survey performed by Euromonitor (2018), 19% of the interviewed answered they believed organic products are better for them than non-organic, while 26% said they believed organic products are better for the environment than non-organic.

Several trends have contributed to the increased consumer interest in natural/organic

products. As consumers become more aware of potentially harmful chemicals – both to their bodies and the environment, they search for non-toxic and more sustainable alternatives.

Though there are benefits and optimistic predictions, many barriers exist that limit product adoption. The benefits that drive consumers to purchase premium organic products typically revolve around the health and sustainability aspects. However, cost is a major barrier, as organic products come at a higher unit price on average, which adds up over time. Pricing differentials will continue to be a challenge (Euromonitor, 2018).

3 METHOD AND OUTCOMES

Concerning the methodological choices, our research used a mixed-methods strategy: it counts on a qualitative and a quantitative phase. In the qualitative phase, we reviewed the literature on attributes in the ethical cosmetics market as a starting point. We then interviewed 30 individuals between the cities of Porto Alegre and São Paulo (15 manufacturers and 15 consumers of ethical cosmetics) looking for confirmation of the previous studies' conclusions or new insights. Interviews were mostly performed in person, but some online meetings were scheduled when manufacturers had no time available or were in transit. All consumers were interviewed in person.

Finally, we ended up with 10 attributes that were put to test in an online survey using Best-Worst Scale. The survey also contained a demographic questionnaire and the 35 items of VALS. Our chosen platform to display the questionnaire was Qualtrics and a total of 302 participants from different parts of Brazil participated in a period of 60 days (from February 2019 to the beginning of April 2019). All statistical data was analyzed using SPSS.

3.1 Socio-demographic Characteristics of Respondents

The total number of respondents was 302. The majority of respondents were female, single and undergraduates or higher. As for the levels of income, 76 % of respondents earned between one and four Minimum Income Salaries (MIS), which goes from US\$263.39 to US\$1.053.00. Considering age, respondents were mostly between 18 and 34 (78,84%). The study focused on working respondents and 79.14% had no children. Full reports are described in Table 1.

Table 1 – Demographic reports of the sample

Category.	Variable	N	%
Sex	Female	276	91.39
	Male	26	8.61
Education	Complete High School	18	5.96
	Undergraduates	106	35.10
	Bachelors	70	23.18
	Post-graduation	108	35.76
Marital status	Single	203	67.22
	Married	78	25.83
	Other marital statuses	21	6.95
Income	Until 1 MIS	70	23.18
	From 2 to 4 MIS	162	53.65
	From 5 to 10 MIS	49	16.23
	More than 10 MIS	21	6.95
Age	From 18 to 24	97	32.12
	From 25 to 34	129	42.72
	From 35 to 44	59	19.54
	From 45 to 54	17	5.63
	No	239	79.14

Children	Yes	63	20.86
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3.2 Qualitative Phase

We started our research with a literature review. This item presents 13 attributes, which are listed in Table 2, followed by the classification between Product Related Attributes (PRA) and Non-Product Related Attributes (NPRA) for future comparisons with the results obtained from the interviews with the selected individuals.

Table 2 - Literature review on important attributes for ethical cosmetics consumers

Attributes	Description	Classif.	Author(s)
Eco-friendly components	Ingredients that are extracted from nature in processes that do not present harm to ecosystems.	Product Related Attributes (PRA)	Thompson & Kidwell (1998) Yeon Kim & Chung (2011)
Non-harmful ingredients	Ingredients that do not present attested or potential risks to human health (e.g. parabens and petrolatum).	PRA	Csorba & Boglea (2011) Ghazali et al. (2017) Schuitema & DeGroot (2014) Yeon Kim & Chung (2011)
Impacts on the environment (i.e.: biodegradable particles)	The product's residues do not present risk to the environment after discard or have a difficult and slow degradation.	PRA	Ghazali et al. (2017) Csorba & Boglea (2011) Yeon Kim & Chung (2011) Connelly (2013)
Sustainable Packaging	The product's package is recycled/recyclable or contain easily degradable material.	PRA	Csorba & Boglea (2011) Ghazali et al. (2017) Schuitema & DeGroot (2014) Yeon Kim & Chung (2011)
Price difference towards the traditional counterpart	How tolerable the price gap is between other options Also, the consumers' financial limitations may impose an obstacle.	PRA	Thompson & Kidwell (1998) Connelly (2013) Maggioni et al. (2013) Schuitema & De Groot (2014)
Certification (sign or mark in the label)	A governmental or private label that attest the validity of the information provided by the manufacturer.	PRA	Yeon Kim & Chung (2011)
Performance	How/if the product fulfills the expectation on its functionalities and differentiations.	PRA	Thompson & Kidwell (1998) Connelly (2013) Maggioni et al. (2013) Schuitema & De Groot (2014)
Image of the brand	If the company is well-known and has practices related to positive attitudes and/or supports social/environmental initiatives.	Non-Product Related Attributes (NPRA)	Thompson & Kidwell (1998) Connelly (2013) Schuitema & De Groot (2014)
Hedonic (i.e.: "I want to be part of the change")	People adopt the product to feel good about themselves for engaging in a positive trend of consumption.	NPRA	Connelly (2013) Ghazali et al. (2017)
Product knowledge	The exposition of the products' benefits and limitations is presented in a clear and trustworthy manner. It is about what the product offers and what can be expected or not (e.g. "In what does it work differently?", "how should I use it to obtain better results?")	NPRA	Thompson & Kidwell (1998) Connelly (2013) Maggioni et al. (2013) Ghazali et al. (2017)

Subjective Norms	A consumerism motivated by collective pressures of a certain social group the consumer belongs to.	NPRA	Thompson & Kidwell (1998) Connelly (2013)
Intentionally abstaining from traditional beauty industry	Personal beliefs and ideological conflicts towards the practices of traditional manufacturers.	NPRA	Connelly (2013) Ghazali et al. (2017)
Tests on Animals	Dermatological tests of products are not performed on animals.	NPRA	Ghazali et al. (2017) Schuitema & DeGroot (2014)

The following step was to perform the confirmatory interviews. After our inquiries, we went back to the attributes found on the literature review, keeping those that were mentioned by respondents (non-harmful ingredients, tests on animals, impacts on the environment, hedonistic attitude, product knowledge, subjective norms, performance, certificates and intentionally abstaining from traditional beauty industry) and eliminated those that were not (sustainable packaging, image of the brand, price difference towards traditional counterpart and convenience).

We also considered the inclusion of attributes that were not discussed previously in the literature, such as “no animal tests nor animal ingredients”, as we identified in our interviews that many individuals of vegan orientation also considered the origin of ingredients while making purchasing decisions. We then ended with a final set of 10 attributes. After carefully analyzing the characteristics of BWS surveys, we considered the item “intentionally abstaining from traditional beauty industry” as a broad concept, which could ultimately be considered too vague by respondents, while other attributes were more specific about real-life scenarios of choices. Therefore, our final model consisted on 9 attributes.

3.3 Best-Worst Scale

The 9 main Best-Worst Scale (BWS) attributes found in the qualitative phase were presented as statements as exhibited below in Table 3. The relative importance represents each item’s weight compared to the most important attribute of all. Respondents had to choose the most and least important item among those listed using a MaxDiff Matrix provided by Qualtrics.

The average BW scores demonstrated that “The product really works” was considered the most important attribute, followed by “The product does not contain animal origin ingredients or has been tested on animals”, “The product and its residuals do not present harm to the environment”, “The product does not contain ingredients that present risk to my health” and “The product has not been tested on animals”. The fifth item was included in our exploratory phase as we noted a significant difference between disagreements with animal testing and personal habits of no consumption of animal origin items. Such choice was proven to be effective since scores show two distinguished mindsets towards the subject. The frequencies observed in each item as “most” and “least” important are exhibited in Table 3:

Table 3 – BWS Outputs

Item ranked by BWS Score	Most important	Least Important	BWS Score	Relative importance
(1) The product really works.	85	2	83	100%
(2) The product does not contain ingredients that could present risk to my health.	64	8	56	67,47%
(3) The product has not been tested on animals nor contains items of animal origin.	49	8	41	49,40%

(4) The product and its residuals do not cause negative impacts to the environment.	33	4	29	34,94%
(5) The product has not been tested on animals.	25	4	21	25,30%
(6) The product shows knowledge on use and its limitations with clarity and transparency.	19	7	12	14,46%
(7) The product makes me feel like I am doing my part for the planet.	17	10	7	8,43%
The product contains seals and certificates in its package.	6	17	-11*	-
The product is valued in my social group.	4	242	-238*	-

*Negative scores indicating attributes were mostly rejected

3.4 VALS Outcomes

Respondents had to rate their agreement with the 35 items of VALS in a Likert scale from 1 (it is related to me) to 7 (it is completely related to me). After performing reliability tests, we found 8 consistent factors formed by exploratory factorial analysis (Table 5). We named the profiles according to the items associated with them and also having in mind previous exploratory factorial analysis, like the one conducted by Carvalho (2004).

Table 5 – Rotate component Matrix

		Component							
		1	2	3	4	5	6	7	8
Avant-garde Individuals looking for excitement and novelties.	I like to have an exciting life.	.854	.103	-.087	-.045	.089	-.030	.011	.055
	I like to do unique or different things.	.809	-.034	.238	-.033	-.007	.141	.116	-.082
	I am always looking for exciting things.	.789	.135	.063	-.105	.032	.088	-.001	-.143
	I often wish to carry out stimulating activities	.786	.054	.165	.011	.182	-.152	.184	.051
	I like the challenge of doing something I never did before.	.746	-.048	.120	.019	.121	.259	.078	-.161
	I like to try new things.	.719	-.070	.102	.039	.100	.270	-.059	-.182
	I like a lot of variety in my life	.425	.124	-.125	-.107	-.179	.329	.074	-.331
Oriented to Fashion Influenced by fashion and others' opinions.	I like to dress up-to-the-minute.	.017	.891	-.087	.065	.094	-.005	.034	.039
	I usually follow the last fashion and tendencies.	.066	.879	-.051	.051	.041	.045	.090	-.059
	I am more fashionably dressed than most people.	.040	.825	.014	.110	.113	-.134	.131	.062
	I like people to consider me a fashionable person.	.052	.778	-.011	.121	.065	.040	.069	.164
Artisans Interested in handicraft.	I prefer to do something by myself than buy it.	.090	-.032	.852	.016	-.024	.050	-.009	.022
	I like handicrafts.	.173	-.100	.843	.043	-.081	.122	.026	-.057
	I like to make things with wood, metal and other materials.	.123	-.031	.611	.161	.031	.168	.428	.033
Oriented to Moral and Religion Strict religious views.	There is too much sex on TV these days.	-.021	-.091	.001	.770	.017	.190	-.101	.164
	The government should encourage the practice of prayer in public schools.	-.074	.175	.060	.729	-.017	-.228	.096	-.018
	A woman's life is only complete if she can provide a happy home to her family.	.038	.106	.046	.717	.077	-.222	.197	.148
	As the Bible states, the world was created in six days.	-.090	.324	.135	.591	.043	-.206	.007	.033
Leader of a group Enjoy being a reference.	I like to lead others.	.172	.122	-.083	-.009	.892	.022	.066	.044
	I like to be responsible for a group of people.	.123	.136	-.058	.030	.887	.087	.040	-.011
	I have more ability than most people	.079	.088	.446	.164	.490	.051	.063	-.142
Theoretical Oriented to	I would like to have a better understanding of how the universe works	.211	-.047	.017	-.132	-.001	.773	.127	.039

intellectual subjects.	I like to learn about culture, art and History.	.183	.011	.250	-.184	-.018	.654	-.051	-.074
	I am very interested in theories	.010	-.019	.106	-.041	.211	.579	.101	-.237
<i>Ingenious</i> Enjoy fixing things.	I like to look in hardware stores and automotive shops.	.028	.183	.015	.118	.075	-.012	.859	.061
	I am very interest in mechanical things. like motors work.	.177	.121	.133	-.003	.050	.161	.812	-.015
<i>Conservative</i> Mainly narrow-minded.	I have to admit my interests are a little narrow and limited.	-.136	.067	.005	.167	-.053	-.035	.025	.769
	I have few interests.	-.153	.128	-.065	.068	.013	-.146	.043	.746

Our analysis concluded that VALS worked as an instrument, presenting a Kaiser-Meyer-Olkin (KMO) measure of 0.815 and a significance index lower than 0.05. As our sample was very homogeneous concerning demographic data, individuals had to be differentiated through their personal values, which we did by applying a clustering method.

3.5 Hierarchical Cluster Analysis

In order to obtain an optimum number of cluster groups, we turned to the variance among respondents concerning the 28 items of VALS. Our chosen clustering technique was Hierarchical Cluster Analysis and it was performed using SPSS. We opted for Ward's Method as a grouping technique and then applied Quadratic Euclidian Distance among items (Field, 2009). The best clustering result, considering the number of items in each new added group, was a 4 clusters solution exhibited in Figure 4. In all cases, groups were differentiated from each other by Kruskal-Wallis Test (with $p < 0.05$).

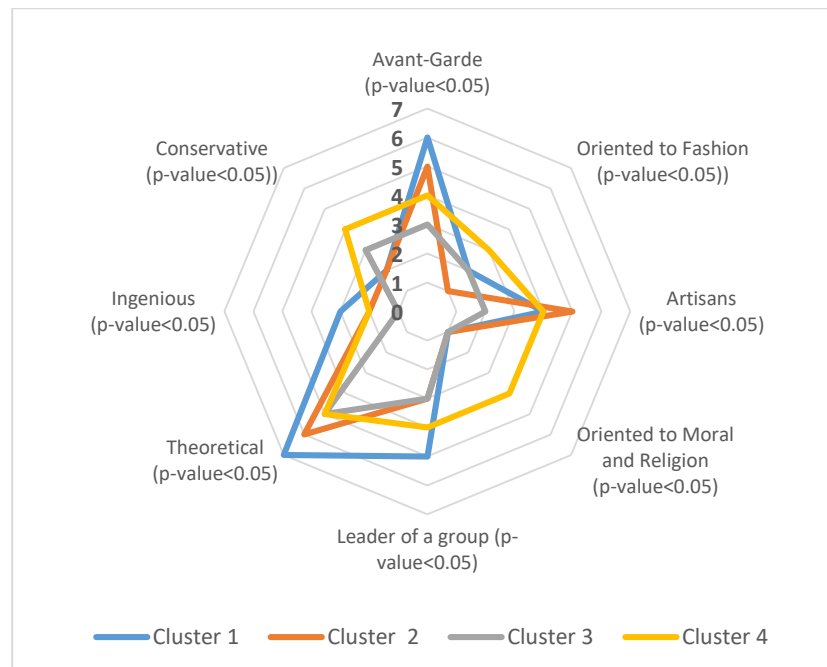


Figure 4 – Clusters allocated among VALS Factors using Kruskal-Wallis Test

For all VALS items, the null hypothesis was rejected under a level of significance of 0.05, meaning there are significant differences among all clusters concerning their values. As for the attributes, most of the correlations between clusters and most/least important attribute were not statistically significant, **except** for “The product really works” and “The product and

its residuals do not cause negative impacts to the environment”. The counting of mentions is depicted in Table 6 and percentages represent the weight of attributes in each cluster:

Table 6 – Statistically significant differences in clusters by attributes

Most important attribute	CL1	CL2	CL3	CL4	Total
“The product really works”	26	22	16*	21	85**
	30.6%	25.9%	18.8%	24.7%	100%
“The product and its residuals do not cause negative impacts to the environment”	9	18*	2	4	33**
	27.3%	54.5%	6.1%	12.1%	100

*Differentiated by chi-square (p-value<0.05)

** number of total respondents who identified the attribute as the most important.

5 ANALYSIS AND DISCUSSION

Although our factorial analysis returned 8 factors, the hierarchical cluster analysis performed posteriorly helped us to understand how the VALS profile factors were distributed in our sample. According to medians observed in VALS items, the main characteristics identified in each cluster were:

- Cluster 1:** respondents who scored the highest medians in both dimensions *Avant-Garde* and *Theoretical*, but also enjoy to lead others. They are mainly young (18 to 24) and undergraduates/Bachelors. This cluster shows a general dislike for orientation to fashion, moral and conservative values. Concerning handicrafts, the majority of individuals in this group demonstrated indifference.
- Cluster 2:** These individuals are more intimately related to the *Theoretical* values, although they are also *Avant-Garde*, with significant interest in handicrafts (reaching the highest medians in the dimension *Artisans*). This group contains the most significant amount of consumers who prioritize environmental impacts while looking for cosmetics.
- Cluster 3:** These individuals are not innovative and do not get motivated by excitement. Although they do care about *Art*, *Culture* and *History* and enjoy learning new skills in order to improve their lives, their interests are not very wide and their leadership skills are very low. This group contains individuals who significantly prioritize performance over all other attributes. It also contains a majority of post-graduates, most of them with relatively low incomes.
- Cluster 4:** This group of respondents showed the highest medians in items related to conservative views (namely I have few interests and I like my life to stay the same week after week). Although they are significantly related to the *Theoretical* dimension, their scores in the *Avant-Garde* items show a profile averse to risk and excitement.

Finally, while all groups of values were present among our respondents, three groups were preponderant: *Innovators* (a), *Experiencers* (b) and *Thinkers* (c). According to VALS profiles, those factors reflect, respectively:

- Successful, sophisticated, active people who take command are interested in growth, seek self-development and self-knowledge, their self-esteem is high. They seek challenge and their lives are characterized by diversity, their purchases reflect the taste for niche products and services and high level.
- Young, impulsive, vital, enlightened, like the new, the extravagant and the risky, are avid consumers of clothing, fast food, music, movies and videos and also enjoy sports and outdoor recreation.
- Mature people, satisfied, comfortable, reflective, value the order, the knowledge and

responsibility, who are educated and develop activities that require professional titles, base their purchases on the question of durability, functionality and value of the products, seeking information in the buying process;

Our findings on preferred attributes are mostly aligned with previous studies, except for an undermost interest in price and certification, having both been considered prominent by all authors discussed in Table 2. We found evidence to support that ethical cosmetics are aligned with engaged consumers who are often related to other ethical causes (Connelly, 2013). Hence, manufactures should be in touch with those causes, looking to be part of other initiatives that may be calling the attention of this audience. A useful advice would be to look for places where important ethical causes are being discussed and expose the purpose of their business in such occasions, showing the commitment of the brand with causes beyond the primary attributes of the product.

Also, dynamics of production should consider ingredients that are acceptable for the maximum number of consumers, which means avoiding substances from animal origin as much as possible and be careful about providing information on the usage and limitations of the products. As certification was not considered by our sample as an imperative feature, manufacturers could look for less expensive alternatives for attesting the reliability of their products. Although our sample of respondents presented different sets of values, they were not considered diverse in the context of attributes. Therefore, strategies focused on identified attributes could be successful, even if manufacturers are indeed covering different social groups. We also identified that personal connections between producers and consumers are an important part of the business. One possible and plainly affordable action to explore such environment, would be a closer communication with targeted consumers through social media, showing consistent transparency about production methods, supported causes and guidelines for corporate sustainability behavior. With higher medians in theoretical items, this is a class of consumers who tend to be inquisitive and skeptic. Consequently, a warning must be posed to fake content in campaigns or possible business partnerships that may undermine customers' trust in ethical brands.

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