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BEAUTY IS NOT ONLY SKIN DEEP: FOOD ETHICS AND CONSEQUENCES TO THE VALUE CHAIN

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ABSTRACT

The contemporary context in which the food industry is set up instigates a new product conception towards food ethics. However, how effectively does this perspective materialize on the gondolas of retail chains? In order to bring some elements to discussion, this article presents an exploratory study based on the decoding of information contained in food labels marketed in Brazil. In total, 287 labels regarding four categories (juices, snacks, chocolates, and yogurt) were analyzed using the Reverse Engineering methodology. The results indicate a movement of brand differentiation structured in actions conducted inside (a result of product and process engineering) and outside (regarding relationship engineering along the value chain). In other words, the internalization of innovations in products and processes (inside perspective) and; the development of vertical cooperation and coordination relations outside the company (outside perspective). In this sense, participation in globally connected markets is described as a driver of differentiation strategies regarding ethical aspects in the food processing industry and has direct effects on the vertical structures of firms, as suggested by the value chain literature.

**Beauty is not only skin deep:
Food ethics and consequences to the value chain²**

Introduction

The concept of food ethics was originally associated with guaranteeing availability, accessibility, variety, and safety of food and beverage products (Korthals, 2001; Deblonde, de Graaff & Brom, 2007; De Tavernier, 2012). However, while some producers, processors, and retailers remain concerned with these conventional perspectives, consumer drivers point to the need for a different approach in terms of food ethics (Hepting, Jaffe, & Maciag, 2014). Indeed, contemporary consumers are increasingly demanding products that promote their own health and wellness, in alignment with animal and environmental welfare, as well as fair labor conditions in a global context related to the food value chain (Korthals, 2001; Severo, Guimarães & Dorion, 2018). The growth of both ethical consumption and social and political participation has brought greater pressure on the food industry to act socially and environmentally responsible (Early, 2002). In addition to assuring food security and safety, producers, processors, and retailers must consider ethical questions raised by particular

production practices and conditions in the food value chain (Coff, 2013; Deblonde, de Graaff & Brom, 2007). These questions are associated with food-related illnesses, such as obesity, cancer, and cardiovascular diseases. Moreover, they are associated with social and environmental concerns, such as fair trade, organic labeling, and cleaner production (Silva, Sereno & Sobral, 2018).

Furthermore, with the increasing competitiveness in the food industry, food ethics may be a part of a firm's differentiation strategy (Grunert, Hieke & Wills, 2014; Silva, 2017), creating a competitive advantage by promoting their brand reputation and positioning their products as socially and environmentally responsible (Boehe & Cruz, 2010). Brand reputation increases the value perceived by consumers, strengthening loyalty, advocacy, and identification with the firm (Du, Bhattacharya & Sen, 2007). Additionally, a differentiation strategy based on food ethics provides a better understanding of a more responsive demand in terms of needs, rationales and beliefs (Kasemodel *et al.*, 2016).

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² Paraphrasing the song 'Beauty Is Only Skin Deep', recorded on 1966 by the American vocal group Temptations.

However, in order to act on their ethical preferences, consumers require information (Irvine, 2013). The direct contact between food production and consumption, which originally formed the basis of trust, has largely disappeared (Brom, 2000). With this increasing distance between producers, processors, and consumers, the way consumers perceive food and beverage products and build trust has changed. The most useful information for consumers purchasing decisions comes through labeling (Hepting, Jaffe & Maciag, 2014, Verbeke & Ward, 2006). Food labels have been largely considered a topic of study in the literature, regarding, for instance, labeling formats and their influence in consumer decision (Caswell & Mojduszka, 1996; Feunekes *et al.* 2008). Additionally, following the contemporary panorama related to food processing and consumption, there is an increasing interest towards receptivity, perception, and willingness to pay a premium price for labels that indicate food ethics. Take for instance Loureiro & Lotade (2005), Grunert, Hieke & Wills (2014), and Bissinger & Leufkens (2017). However, an open question remains unexplored in the literature regarding food ethics and labeling: how does the concept of food ethics materialize on processed food product labels? What can they reveal about the new strategic positioning of the food industry *vis-a-vis* the contemporary moment we live in? Starting from this frame, the main purpose of this article was to understand how the concept of food ethics materializes in terms of food and beverage products launches in Brazil by means of a label analysis using Reverse Engineering methodology. The remainder of this article is structured as follows. Next, a theoretical

background regarding food ethics is presented. In the third section, the food ethics market is described. In the fourth section, the label analysis performed is detailed regarding material and methods employed; while in the fifth section, the results obtained are discussed. Lastly, managerial implications and final remarks are presented.

Food Ethics

Over two centuries of history, the food industry has reinvented itself substantially in terms of the orientation of its core business: from vegetable and animal raw material processor with the main purpose of safety and conservation in the early 19th century, to supplier of safe, practical and convenient food, ensuring sensory, nutritional and functional aspects (Aguilera, 2006). Despite this observed progress, an important share of global consumers remains unsatisfied, revealing complex consumption drivers associated with processed food (Silva, Sereno & Sobral, 2018).

In this context, the food industry's core business is no longer about processing to preserve or ensure safety, considered initial attributes of the industry. Nor is it about processing to exclusively enhance flavor and favor convenience, or even to contribute to health and well-being. Increasingly and among all economies, whether developed or emerging countries, consumers demand a product that meets all of these characteristics, while benefiting the health of society in which the industry operates (Silva, 2017). This concept is referred to as food ethics, comprising three main levels of consumer concerns (Brom, 2000), Figure 1.

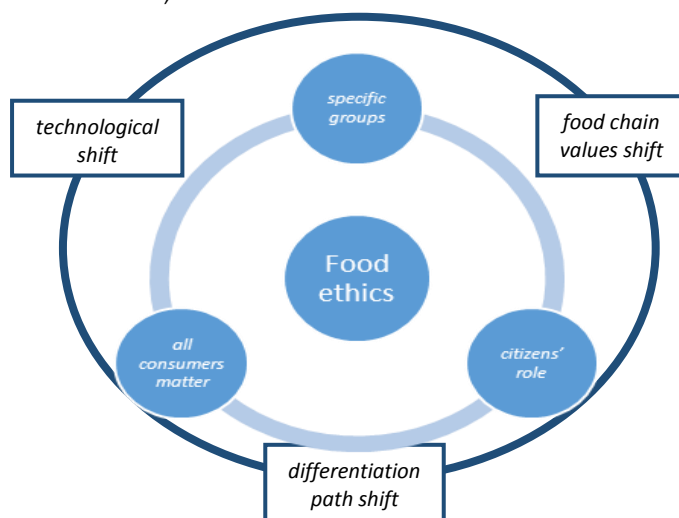


Figure 1. Food ethics: product, society and environment.
Source: Based on Brom (2000).

The first level is related to consumers. It includes concerns such as food safety, i.e. “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (World Food Summit, 1996).

The second level is related to groups of consumers, considering the way they want to live their life as well as their own life plan. For instance, those who are vegan can only live according to their own value system when they know that their food products do not contain inputs of animal origin (Brom, 2000).

The third level is related to consumers in their role as citizens. These concerns are related to ideas about a good society, considering the impact products have on both society and the environment (Brom, 2000). The social aspect involves the promotion of sustainable development and the empowerment of local communities (Silva, Sereno & Sobral, 2018). In turn, the environmental aspect could be associated with agroforestry systems, conscious use of natural resources, reduction of carbon footprint, management of water resources, encouragement of the principles of reduction, recycling, and reuse, among other concepts (Melo *et al.*, 2018, Saes *et al.*, 2014).

These three concerns are closely related to certification and standards. Take for instance the case of better-for-you food products with the substitution or removal of fat, sugar, and/or sodium, as well as naturally-healthy food products with natural and whole ingredients (Viana, Silva & Trindade, 2014). In turn, Organic, Fair Trade, UTZ-Certified, Rainforest Alliance are some of the most important seals regarding environmental and social requirements (Vecchio & Annunziata, 2015). In this sense, Grunert, Hieke & Wills (2014) argue that consumers relate sustainability mainly to environmental issues, despite the importance of social aspects; while Janßen & Langen (2017) consider that aspects such as animal friendliness and local production are going to receive more importance in the near future.

From these consumer concerns, three major shifts are expected. The first shift involves food value chains (Deblonde, de Graaff & Brom, 2007). The food sector has to open up in order to bridge the gap between producers and consumers and to respond to problems of mutual distrust. In this context,

transparency and communication are key (Brom *et al.*, 2004, Deblonde, de Graaff & Brom, 2007).

The second shift involves a technological paradigm (Deblonde, de Graaff & Brom, 2007; Silva, Sereno & Sobral, 2018). The technological and scientific approach seems disconnected to the role of food in people’s lives (Beekman, 2000; Brom, 2000; Silva, Sereno and Sobral 2018). According to Deblonde, de Graaff & Brom (2007), a mental gap has grown between actual food production methods and consumers’ ideas about them. Many consumers have a romantic picture of food production that is often reinforced by food marketing. When – particularly in situations of food crises – they are confronted with the reality of food production, feeling alienated (Deblonde, de Graaff & Brom, 2007). This leads to the critical understanding that the fascination for a certain process by industry professionals does not necessarily guarantee added value from the consumer’s perspective (Saguy *et al.*, 2013).

In turn, this frame leads to the third shift, which involves origin concern and a new differentiation path in the longing for a sustainable competitive advantage. The contemporary challenging situation urges the development of new processes and technologies considering present-day consumption drivers associated with processed food. This is important for the food industry to reinvent itself and to understand that more than creating textures, the opportunity is also to preserve and enhance attributes derived from raw materials and from the relationships established throughout the value chain in which the food industry operates (Silva, Sereno and Sobral 2018).

This new differentiation path is aligned to the perspective that a “food product has a lot of value, also referring to where (and how) it comes” (Lopez, 2014). This results in the opportunity for technological and scientific developments to be aligned with the social dynamics of the food industry (Kasemodel *et al.*, 2016).

Indeed, differentiation strategies could go beyond aspects assured inside or within technological limits (Silva, Sereno & Sobral, 2018). So that, a considerable part of both value and quality of the food product could encompass a true story behind processing (Intel, 2016), related to the socio-environmental context regarding origination, processing, distribution and/or commercialization (Humphrey &

Memedovic, 2006, Henson & Humphrey, 2009, Saes et al., 2014).

Considering the concept of food ethics presented in this section, a two-branch decision model regarding differentiation based on food ethics could be defined (Figure 2). This decision model is comprised of an inside perspective, which includes rethinking product, process, marketing, and

packaging, seeking to develop products that are healthier and more sustainable, following new bases of communication with the consumer. Additionally, the decision model is also comprised of an outside perspective, which is related to rethinking food industry relationships along the value chain, regarding the quality of relationships established by the industry with its stakeholders (Silva, Sereno and Sobral 2018; Silva, 2017).

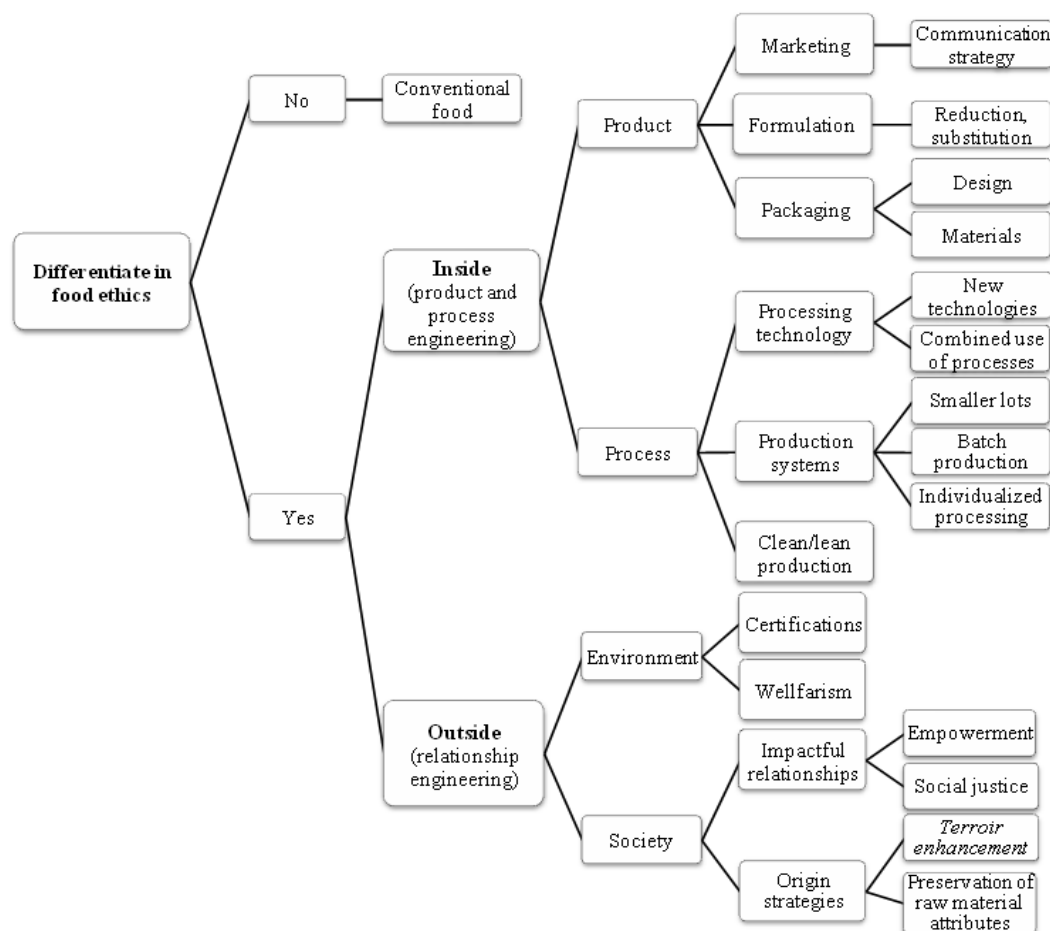


Figure 2. Food ethics differentiation in a decision tree model.

Source: Based on Silva (2017).

The Food Ethics Market

With consumers demanding products that promote health and wellness, animal and environmental welfare, as well as fair labor conditions in a global context, the number of food and beverage products launched with an ethical claim has increased over the years.

Many brands are using ethical descriptions, certifications, and seals on product packaging in order to communicate socially and environmentally

responsible practices according to market research performed by Mintel, a global market intelligence agency. In 2010, 1.362 food and beverage products marketed as ethical were launched worldwide as reported in the market analysis conducted by Mintel (2017). In 2016, this number reached 7.441 and a total of 28.082 products with an ethical claim were launched worldwide between 2010 and 2016 (Mintel, 2017). The most representative countries in terms of food and beverage product launches with an ethical claim included Germany, USA, and France, which

together accounted for over 36% of all launches in the category.

The highlighted segments considering number of ethical food and beverage product launches worldwide were the beverages (including hot beverages, juices and fruit beverages, alcoholic beverages, waters and others), chocolate products and bakery products (including breads, cakes,

crackers and cookies) segments (Table 1), contributing with over 68% of all ethical food and beverage product launches in 2016 (Mintel, 2017). Concerning growth rates, desserts and ice creams, fruit and vegetable products, and bakery products were the most relevant segments between 2010 and 2016, presenting an average growth rate of 61%, 56% and 49% per year, respectively.

Table 1. Ethical food and beverage product launches by category (2010-2016).

Category	2010	2011	2012	2013	2014	2015	2016
Hot beverages	488	598	632	1239	144	1652	1697
Chocolate products	273	258	419	932	1503	1764	2165
Bakery products	92	115	150	331	527	763	1029
Desserts and ice creams	25	62	51	179	289	365	438
Appetizers	51	74	81	149	180	281	339
Dairy products	48	53	117	115	177	145	183
Sauces and condiments	60	90	59	138	139	176	174
Ready to consume beverages	35	45	67	156	145	173	191
Sides	48	64	53	87	96	151	217
Juices and fruits beverages	34	59	48	108	112	136	132
Fruits and vegetables products	10	32	41	88	73	104	146
Breakfast cereals	32	14	23	60	80	118	98
Fish, meat, and egg products	36	19	49	51	64	90	104
Sugars and sweeteners	24	23	41	45	49	80	85
Other beverages	12	29	24	36	38	51	36
Alcoholic beverages	11	19	27	36	53	45	41
Candys and gums	10	21	31	39	37	27	53
Ready to consume meals	19	18	18	34	31	27	30
Baby food	2	3	13	13	11	44	49

Note. Source: Retrieved from Mintel. Global New Product Database. (2017, April 10).

Regarding developing economies, Brazil presented a relevant performance considering the ethical food and beverage market. In 2010, 27 food and beverage products marketed as ethical were launched in the country (Mintel, 2017). In 2016, this number reached 85, so that 443 products with an ethical claim were launched in Brazil between 2010 and 2016 (Mintel, 2017). The average growth rate of launches of food and beverage products with an ethical claim was of 21% per year in the country. Brazil was only surpassed by the USA, UK, Germany, and France in terms of ethical food and beverage product launches.

Concerning product segments, beverages (including hot beverages, juices and fruit beverages, alcoholic beverages, and waters), chocolate products, bakery products (including categories such as breads, cakes, crackers and cookies), desserts, ice creams and dairy products consisted of the most representative considering ethical food and beverage product launches in Brazil in 2016 (Table 2).

When combined, these segments contributed to over 51% of all ethical food and beverage product launches in the country (Mintel, 2017).

Table 2. Brazilian ethical food and beverage product launches by category (2010-2016).

Category	2010	2011	2012	2013	2014	2015	2016
Hot beverages	3	20	6	18	27	20	32
Desserts and ice creams	0	0	1	3	14	14	12
Chocolate products	2	2	9	7	3	9	14
Bakery products	3	1	6	6	4	13	9
Fish, meat and egg products	3	4	6	4	8	2	1
Appetizers	4	1	5	3	3	6	4
Sauces and condiments	3	1	4	7	2	2	1
Dairy products	0	0	4	5	0	2	3
Sides	2	0	2	2	0	7	0
Juices and fruit beverages	0	0	0	6	3	2	2
Breakfast cereals	0	1	1	2	1	3	0
Fruits and vegetables products	1	1	1	1	0	2	4
Sugar and sweeteners	0	0	2	1	2	2	1
Ready to consume meals	0	1	1	4	1	0	0
Other beverages	0	1	1	0	0	2	1
Alcoholic beverages	0	1	1	0	1	1	1
Candys and gums	0	0	1	3	0	0	0
Soups	0	0	1	0	0	0	0
Waters	0	0	0	1	0	0	0

Source: Retrieved from Mintel. Global New Product Database. (2017, April 10).

Retrieved from <http://brasil.mintel.com/gnpd-banco-de-datos-de-novos-productos>.

Materials and Methods

Label's role in consumer choice

We argue that labels might be a source of accessible information in a quick manner and with no significant costs, revealing a fertile territory – quite unexplored – for the conduction of a comparative analysis of strategic positioning regarding companies and their brands, by decoding graphic and descriptive information.

The guarantee of physical, chemical and microbiologic integrity drives many efforts in the development of food products. Since improvement in the filling process, use of established multilayer

packaging, up until the emerging technologies of active packaging, the role of packaging in foods has developed mainly due to shelf life maintenance (Smith, Ramaswamy & Simpson, 1990; Sarantopoulos, De Oliveira & Canavesi, 2001; Marsh & Bugusu, 2007; Ahvenainen, 2012; Robertson, 2012;).

Furthermore, labels appear to be one of the most important factors in consumer purchasing decisions (Prendergast & Pitt, 1996; Nancarrow, Wright & Brace, 1998; Rettie & Brewer, 2000; Silayoi & Speece, 2007). As observed by Silayoi and Speece (2007), changes that occurred in the past decades in retail format services led packaging to increase its key characteristic as “shelf

salesman” at the point of purchase. Labeling has become a determinant element in the strategy of adding value to a food or beverage product (Nancarrow, Wright & Brace, 1998).

Labeling and packaging are related to marketing, management, advertising, as well as communication, providing a very rich field of studies for various methodologies. Conjoint analysis (Green & Srinivasan, 1978; 1990; Grunert *et al.*, 1996; Van Der Pol & Ryan, 1996; Silayo & Speece, 2007), focus groups (Brug *et al.* 1995; Neumark-Sztainer, 1999) and cluster analysis (Rodrigues *et al.*, 2016) are examples of these methodologies. Sophisticated tools have also been incorporated in this field, such as consumer sensory neuroscience (Zatorre, 2005). These efforts seek to broadly identify attributes that are valued by consumers regarding labeling of processed food in terms of the influence of shapes, materials, colors, and images on consumer decision. Particularly, labels take on the important task of informing nutritional and safety values, reliability, functionality, convenience and social and environmental commitment associated with a product or company.

Label claims analysis and reverse engineering

An exploratory study was conducted with the purpose of assessing how the concept of food ethics materializes in terms of food and beverage product launches in Brazil. A systematic analysis of the information contained in labels was performed considering four categories: juices, snacks, chocolates, and yogurts, due to their relevance in the total number of launches worldwide and in Brazil. In total, 278 labels were analyzed, including 36 juice labels, 115 snack labels, 12 chocolate labels, and 115 yogurt labels. In total, more than 2500 entries concerning label claims or affirmations were selected. The Brazilian supermarket sector is among the fastest growing, followed by Internet sales. In the middle of the economic and political crisis that hit the country, revenues in 2017 grew 6.6%, reaching R\$ 41.8 billion, approximately US\$ 12.7 billion, according to the Network and Associations Research of the Brazilian Association of Supermarkets. Almost 50% of the stores are located in the southeast region and 30% of the country's supermarket stores are concentrated in the state of São Paulo. On average, these stores have 12 to 16 checkouts points (Abrás, 2019).

Data collection took place in April 2014 at an establishment with 20-checkouts points, located in the city of Pirassununga, in the state of São Paulo, Brazil. The establishment, which will have its identity preserved by the request of its managers, is part of a

medium-sized retail network with operations restricted to the Center-East region of the State of São Paulo, with strategic positioning in terms of cost leadership. Pirassununga has 70,000 inhabitants, an HDI of 0.801, per capita income of R\$1.086,22 and more than 54% of the population has an average level of schooling, 17% with higher education. Pirassununga is located in the central region of the state, in a region with a strong vocation for agribusiness, 200 km from the city of São Paulo.

The authors acknowledge that the sociodemographic characteristics are above the average of the country where the research was performed, but not so far from the state of São Paulo. We point out that Brazil is a country of inequality and heterogeneity, and it is very difficult and costly to conduct research that represents the consumption behavior of the country as a whole. The Brazilian average Human Development Index (HDI) is 0.727 and the per capita income of R\$ 793.87. In the state of São Paulo, the HDI is 0.783 and the per capita income is of R\$ 1,084.46. One possible implication of this decision reflects the fact that, in more sophisticated markets, such as Pirassununga and São Paulo, the cost factor does not represent such a strong interference in the consumer decision-making process. In this case, aspects related to ethics may be an element of greater importance in the differentiation strategies adopted by brands. As a favorable argument, we highlight that the state of São Paulo has one of the highest processed food per capita consumptions in the country (Vale *et al.*, 2019). In addition, the data collection site is within the range of distribution of the main food and beverage manufacturers in Brazil.

A content analysis was performed on food labels traded in Brazilian retail (Hodgkins *et al.*, 2012; Shine *et al.*, 1997; Chan, Patch & Williams, 2005). From the information contained in labels, the data were classified according to the product, category, brand, manufacturer, label claims and composition. Additionally, label analysis was performed considering exclusively the information presented in labels. The observed variables included legal denominations (i.e. classification of the product according to the legislation), label claims (eg “natural”, “premium”, “handmade”, “enriched with ...”), seals/certifications (e.g. organic, and fair trade) and other verbal statements permitted by Brazilian law. A synthesis of the observed variables is shown in Table 3.

The analysis of an orange juice label was used as an example and the following information was collected: “100% juice”, “keep refrigerated”, “real orange”, “cold aseptic packaging”, “new formula”, “with Orange gum”,

“without added sugar”, “without conservatives”, “source of C vitamin”, “from the farm”, in addition to legal information on composition, volumetric content, nutritional table, date of manufacture and expiration date. Label analysis was complemented by a review and analysis of publicity materials and articles published in

the field. Through this method, the differentiation strategy adopted in each product analyzed was categorized according to marketing or publicity appeals, new formulations, new product presentation (in terms of packaging and design), new processing technologies and new supply chain designs.

Table 3. Variables observed in food labels.

Asset	Observed variables (label claims)
Flavor	Good tasty Gourmet Artificial aromatized
Nutrition and Health	Healthier Vitamin source Rich in ... With fibers Less sugar, sugar free Diet Ligh 100% natural No transgenic New formula
Publicity e marketing	Subscribe on the site Follow our social network Participate in the promotion Follow our site To know more access ...
Processing or manufacturing mode	Handmade /home made Cold aseptic packaging No conservatives Vacuum packaging Aroma pack Roast - not fried
Origins and supply chain	Made in... Lawful From the farm Product of family farming Origins Special safra
Philanthropy or social action	Fair trade Producer help program Cocoa plan
Convenience	Opens easy Ready for consumption Easy to prepare
Environmental	Sustainability program Biodegradable packaging
Stamps and certificates	Organic certification Rainforest aliance Ecocert Fsc - forest stewardship council Abic - brazilian coffee industry association Anad –national association for diabetes care Whole grain cereal

More than simple information regarding the use of a certain product, the information contained in labels reflects a set of technological steps, applied knowledge, and efforts for work organization along a value chain that originates from the production of raw material to retail shelves. The set of activities in this chain is viewed as an operational strategy that offers an insight into the study that follows.

Methods that allow the logical identification of activities and interventions at various stages of the supply chain are referred to as Reverse Engineering (Thomopoulos, Croitoru & Tamani, 2015). Although reverse engineering has been widely applied to computer science, its expertise in food science and engineering is fairly new. From a methodological point of view, Thomopoulos, Croitoru & Tamani (2015) state that the main challenges are (1) The difficulty of definition with exactness as specifications of the final product, given the quality criteria that are both questionable and non-retarded; (2) The full plenum of all processing steps, and especially a sequence. This is because some steps can add 'invisible' characteristics to the final product.

Reverse Engineering (RE) may be described as a set of techniques that allows the reproduction of a product by identifying attributes, materials and other constructive characteristics (Ingle, 1994). The RE methodology constitutes a product-oriented deconstruction technique to identify manufacturing characteristics, composition and valuation attributes (Otto and Wood, 1998).

The information collected from the labels served as an input to the research process that was based on RE. In this process, the following tools were used: bibliographic research, expert consultation, documentary research in Brazilian legislation and search for complementary information on the internet. The purpose of this process was to

understand, through a logic causal relationship, how these variables reflect in manufacturing processes and beyond them. E.g., a literature review and consultation with food engineers sought to better understand what "cold pasteurization" was. Two alternatives were identified, (1) High-pressure application (Garcia-Gonzalez *et al.*, 2007; Welti-Chanes, Ochoa-Velasco & Guerrero-Beltrán, 2009), and (2) Irradiation (Loaharanu, 1996). Brazilian legislation, through Resolution 21/2001 of the National Health Surveillance Agency (ANVISA), an agency linked to the Ministry of Health, establishes that irradiated foods should include in their label the description "Food treated by irradiation process" (Brazil, 2001). As this information was not identified in the analyzed label, it was considered the first alternative, the application of high-pressure.

The following questions guided the research and consultation process: What are the known processes used in the manufacturing of products that belong to this category? Do these technologies meet the characteristics expressed in the label analyzed? Which process parameters can be directly linked to the declarations found? Does this product have something innovative? Does this innovation take place in terms of formulation, process, or management? Among the information contained in the labels, what draws the most attention? The search script is shown in Figure 3. The filter questions served as a guide for searching and querying about the different label claims identified. For each product analyzed, the cycle of questions was repeated.

The implications of the label claims were initially classified into ten categories: Marketing, Formulation, Packaging, Process Technology, Production System, Lean Production, Certification, Welfarism, Social Impact, and Origination Strategy. The discussion of results is in the following section.

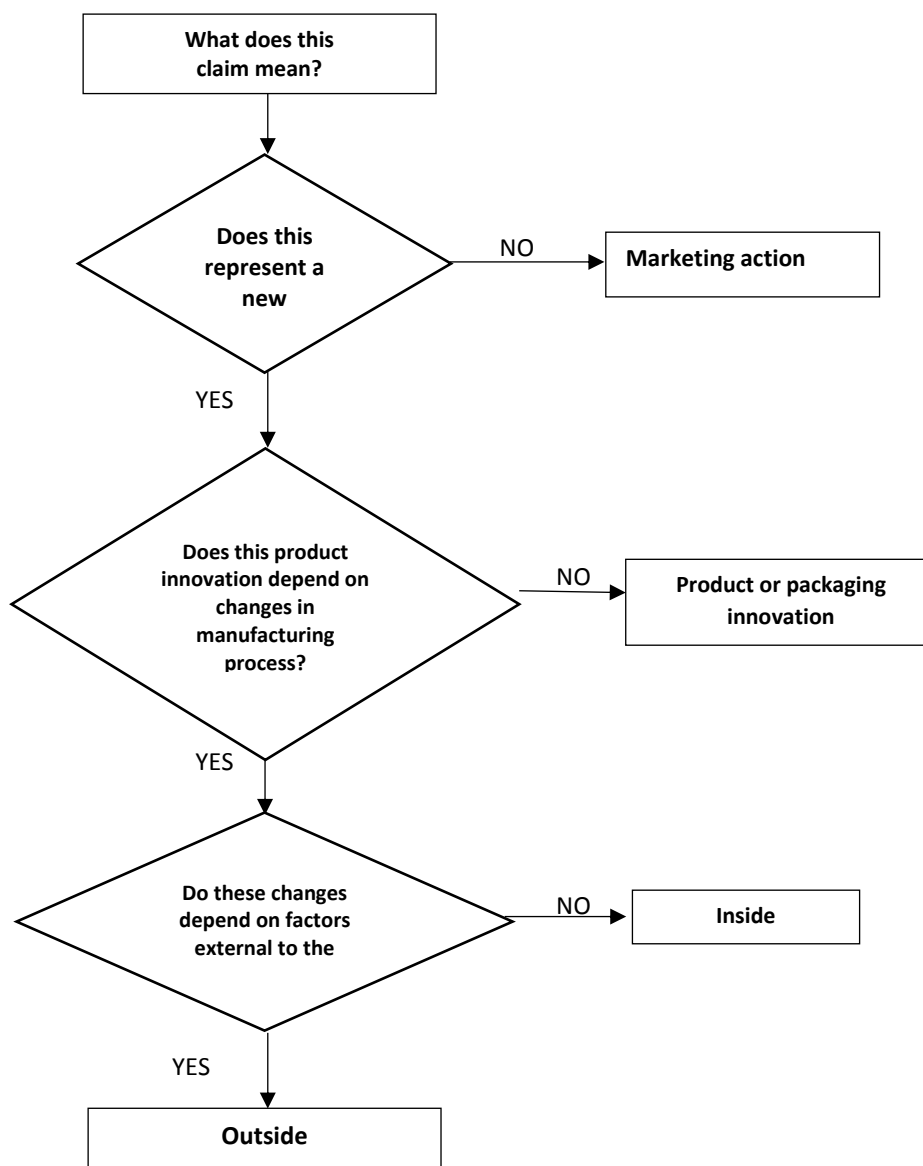


Figure 3. Research roadmap reverse engineering.

Results and Discussion

The results obtained are aligned with the food ethics two-branch decision model (Figure 2) in terms of product, process, marketing, and packaging (inside perspective) in addition to food processing industry relationships in the value chain (outside perspective).

Label analysis indicated that the differentiation of food and beverage products in terms of food ethics through product and process engineering may be

associated with innovations in formulations, productive processes, packaging, and marketing. These developments are presented among new entrants and already leader brands in the market. Examples of this trend may be found in the beverage or the bakery product segments, respectively considering the juices and snacks categories. Table 4 summarizes the results found in the content analysis in labels of the four categories studied.

Categories (frequency)				
Asset	Juices	Snacks	Chocolates	Yogurt
Flavor	76%	54%	84%	83%
Nutrition and Health	37%	68%	13%	29%
Publicity e marketing	11%	13%	12%	14%
Processing or manufacturing mode	9%	8%	7%	4%
Origins and supply chain	23%	6%	17%	13%
Philanthropy or social action	3%	22%	19%	-
Convenience	68%	12%	17%	31%
Environmental	97%	99%	97%	99%
Stamps and certificates	17%	5%	37%	14%
Total Sample	36	115	12	115

Table 4. Occurrences of claims in terms of product category and positioning (label claims).

In the snacks category, baked products made with non-artificial, whole and organic ingredients, with reduced sodium and fat were highlighted. About 68% of the snack labels analyzed presented some type of claim in this respect (reduction of ingredients). In the beverages category, new drivers of consumption indicated a trend towards juices with no added preservatives, sugar or water, with 37% of the analyzed labels containing information on no added sugars and conservatives. Additionally, juices processed using milder technologies are also in demand due to the fact that the preservation of sensory attributes that are original to the raw material is possible - cold pasteurization case cited above.

Regarding innovations in packaging and marketing, the label analysis indicated the use of new packaging formats, colors, and sizes as differentiation strategies. Packs containing a social or environmental appeal were highlighted as trends. In this respect, it should be noted that the environmental issue stands out from label claims, with 98% of the products analyzed containing some information related to recycling, reduction of packaging material or disposal instructions. In the case of social claims, this percentage was of around 15%. Once again, the snacks category presented important examples concerning this trend. In response to criticism over the encouragement of excessive consumption by family-sized packaging, food products in the snacks

category present sharing suggestions ("sharing is fun") in order to reduce the portion consumed.

Despite the particularities of each category, the developments described above converge to a common denominator: the differentiating elements were assured within technological limits (product, process, marketing, and packaging). These differentiating elements do not present any direct results in terms of raw material procurement (associated with variety and origin), nor in terms of the relationship established with suppliers (associated with bases of governance, considering incentive and control, in order to obtain desired quality attributes).

Nonetheless, this is not the only form of action in order to promote the differentiation of food and beverage products. In fact, label analysis indicated that differentiation strategies go beyond aspects assured inside or within technological limits. As evidenced by the analysis conducted, retail shelves are increasingly supplied with brands that promote the health and well-being of the society and the environment in which the company operates. This a premise that marks the contemporary action of the food industry and that already materializes in Brazilian retail shelves as further discussed.

From the perspective of differentials built in terms of industry relationships in their value chain, the differentiation of food and beverage products seems

to materialize through three main drivers: (1) the development of social and environmental welfare programs, (2) the use of certifications, as well as (3) origin strategies. Examples of such drivers may be found in the beverage, chocolate, and dairy product segments, particularly considering the juices, chocolate and yogurt categories.

The first driver involves the development of social and welfare programs. In addition to welfare initiatives, brand differentiating strategies in terms of food ethics and guided by environmental aspects may also be associated with initiatives of cleaner production standards and reduction of environmental impact. The most expressive manifestation in the analyzed labels relates to the form of packaging discard (98%). Highlights include label claims such as *"recyclable aluminum"*, *"recyclable packaging"*, *"recyclable steel"* and *"selective waste"*, present on almost all labels.

In turn, social aspects are less evident. The social engagement of food companies is more present in their advertising material and corporate documents than in their labels. Indeed, label claims analyzed highlighted the encouragement of a healthy life and consumer welfare, without regard to aspects of corporate social responsibility along with their production chain. This is the case of a trend in food products called *"better-for-you"*, highlighting the relevance of actions such as *"practice physical exercises"*, *"have healthy habits"* and *"enjoy your free time"*. Under this strategy, the health appeal is combined with the mandatory nutritional table, in order to give prominence to the reductions in amounts of sugars, fat, and sodium in certain portions of food. In some cases, a color code is used to classify these components as low, medium and high.

The second driver refers specifically to the relationship of the food industry with its partners, involving public and private certificates of human and social development. Although this positioning is still modestly employed in the Brazilian market, certain initiatives may not be overlooked, such as the organic certification one. In Brazil, certification of organic products is carried out by a certified organization, duly accredited by the Ministry of Agriculture, Livestock, and Supply (MAPA) and accredited by the National Institute of Metrology, Standardization and Industrial Quality (Inmetro). The certification shall be in the form of a seal affixed or printed on the label or packaging of the product. It is common to find labels

of organic products containing the MAPA seal and also the seal of the private certifier. In the case of coffee, the most expressive segment in this trend, about 8% of the labels analyzed had an organic certification.

Fairtrade certification is more common in coffee and chocolate labels. Our hypothesis is that these products are more likely to be successful in strategies of differentiation and sophistication. It was also noted that these certifications, as well as the Rainforest Alliance one, appear mostly in labels of companies operating in the international market, as observed by Loureiro & Lotade (2005) and Jaffee (2008). Veiga, Makishi & Zacareli (2016) described that some corporate standards can be adopted internationally regardless of the incentives from the local market. The same is true for some private standards created by the companies themselves, such as Nestlé's Cocoa Plan seal.

Certifications issued by associations of class were also observed, such as the National Association of Attention to Diabetes and Brazilian Association of Cardiology. These arrangements escape the set of traditional corporate stakeholders.

Finally, the label analysis shows that the differentiation of products in retail shelves is also largely guided by geographical and territorial identity issues, constituting the third driver. This driver is associated with the identification and enhancement of specific local attributes. For example, *terroir* in wines is a strategy that unfolds as a formal structure of origin, such as Geographical Indication and Denomination of Origin. In most cases of non-formal denomination, there is no third party certifying the origin of the raw materials used and the declaration of origin is provided exclusively by the manufacturer.

Once again, coffee labels stand out concerning this strategy. Regions such as Mogiana, Cerrado Mineiro, Águia Branca, and Serra da Mantiqueira are considered references regarding coffee production in Brazil and displaying these regions on labels has been used as a differentiation strategy. Similarly, countries such as Ecuador, Colombia, Venezuela, and Switzerland are considered references regarding chocolate production and the attribution of origin to these regions consists of an important differentiation strategy.

Concerning this differentiation base, origin, form of confinement, animal breed and other factors

interfere decisively in the quality of the final product. A differentiated raw material is necessarily obtained through particularly coordinated supply sources, in terms of the relationship with producers. This particular movement is still considered a niche in Brazil, restricted to premium products that are commercialized in specific channels. Nevertheless, a closer look evidences the start of a movement of dissemination of brands known to be differentiated, suggesting the start of a dispute for space in the shelf of supermarkets with conventional products aimed at the public in general.

Managerial Implications

This study shows a movement of food ethics brand differentiation structured in two main branches: inside perspective (product, process, marketing, and packaging) and outside perspective (food industry relationships in the value chain).

It is worth highlighting that differentials associated with the inside perspective must be protected through patents or other entrance barriers, such as required capital for research and development or brand value. Otherwise, the existing differential inevitably equals.

From this view, the outside perspective can be a powerful alternative. New rules of global competition and a more informed consumer force companies to build, through collaborative relationships with suppliers, producers, distributors and customers, a strategy to create competitive advantage and differentiation to the entire value chain in terms of quality, sustainability, safety and efficiency (Mangina; Vlachos, 2005; Manzini; Accorsi, 2013).

At the core of differentiation is the relation established between the quality of the processed food, the origin of the raw material, and the bases of relationships with the rural producer. This association meets the longing for sustainable competitive advantages due to the fact that it represents a non-replaceable and difficultly copied differentiating element in a short time by the competition, because of the unique character of the relationship in question (Barney, 1991).

Evidently, this choice of a path should not be understood as an organizational detachment. Differently, adapting and adjusting effectively to conceptions of products more suited to social pressure represents an important business for the food industry. At the front of this process is the

consumer, which is strengthened by both the power of instant exchange of information via social networks, as well as by the increasing offer of products with differentials based on ethical aspects.

Final Remarks

The main goal of this paper was to evaluate how the concept of food ethics materializes in processed foods and beverages in Brazil through a label analysis using a reverse engineering methodology.

Regarding the Brazilian food and beverage industry, the label analysis indicates that the differentiation strategy used is mainly associated with the inside perspective, suggesting important opportunities for the industry in Brazil. Indeed, despite the particularities of each category, the developments described in this paper converge to a common denominator: most of the differentiating elements were assured within technological limits (product, process, marketing, and packaging). These differentiating elements do not present any direct results in terms of raw material procurement (associated with variety and origin) nor in terms of the relationship established with suppliers (associated with bases of governance, considering incentive and control, in order to obtain desired quality attributes).

In contrast, the competitive strategies used by the food industry have pointed to the need for an increasingly fine design of the systemic relationships that define the value chain. Innovation in terms of products and processes within the firm is still a hallmark of business strategies in the food industry, but aspects such as ethics and social responsibility require novel structural innovations that extend beyond the firm's boundaries, involving management and relationship engineering. Besides, the industry has to develop closer relationships with suppliers in order to advance in outside aspects, such as social justice, terroir enhancement and preservation of raw material attributes.

Nevertheless, this article presented limitations that may indicate future research opportunities. One particular limitation is that the results presented were found in a midsize retailer located in a medium-high consumption region. Brazil is a country of continental dimensions, with very heterogeneous traditions and consumption habits. The food industry, as well as other business segments, has recognized this fact and directed its strategies to local contexts.

Likewise, the authors find it interesting to conduct similar research in other locations.

One speculation worth investigating is whether this movement is predominantly an important gateway to new and small entrants; which in turn force brand and market repositioning of companies already consecrated in the market. Furthermore, this discussion indicates an interesting future research agenda, starting with the investigation of the organizational determinants for investment in actions outside of brand differentiation and the relevance of small businesses as a starting point. In this sense, the paper opens room for the analysis of the real benefits of food ethics to agents in food value chains, as well

as for the study of how this differentiation strategy could benefit them.

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QUEM VÊ CARA, VÊ CORAÇÃO: ÉTICA ALIMENTAR E AS CONSEQUÊNCIAS PARA CADEIA DE VALOR

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RESUMO

O contexto contemporâneo da indústria de alimentos instiga uma nova concepção de produto, relacionada à ética alimentar. Mas como esse reposicionamento se materializa nas gôndolas das redes varejistas? A fim de trazer elementos a essa discussão, este artigo apresenta um estudo exploratório baseado na decodificação das informações contidas nos rótulos de alimentos comercializados no Brasil. No total, foram analisados 287 rótulos referentes a quatro categorias (sucos, lanches, chocolates e iogurtes). Os resultados indicam um movimento de diferenciação estruturado em ações realizadas ‘inside’ (resultado da engenharia de produto e de processo) e ‘outside’ (engenharia de relacionamentos ao longo da cadeia de valor). Em outras palavras, diferenciais equacionados internamente, nos limites da firma, referindo-se a inovações em produto e processo, mas também podendo referir-se ao desenvolvimento de relações de cooperação e coordenação ao longo do sistema produtivo em que se insere o processamento. Estratégia em que a participação em mercados globalmente conectados emerge como um direcionador de diferenciação em relação a aspectos éticos na indústria de alimentos e tem efeitos diretos sobre as estruturas verticais das firmas, conforme sugerido pela literatura de cadeia de valor.

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