How Green is Green?

Consumers' understanding of green cosmetics and their certifications.

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Abstract

The market for green products is booming all over the world in a variety of industries, from food to fashion to cosmetics and else. Yet, very little research has addressed consumer behavior regarding green products, especially for cosmetics. In particular, there is a gap in the literature on the understanding of what consumers consider a green or organic product is, for instance in terms of proportion of organic ingredients in the final product. In addition, there is almost no research on consumers' knowledge of green labels and certifications. This paper tries to answer these questions via a multi-method approach in the sector of green cosmetics. First, a series of in-depth interviews were conducted to explore the misconceptions of consumers regarding product content, production process and labels. Then, a survey with an experimental design was administered to 105 French women. The sample was exposed to a picture of a new shampoo soon to be launched in France, with a manufacturer claim that the product is organic or a CosméBio label with different % of organic ingredients (10%, 50%, 75%, 100%). The shampoo which had a manufacturer's claim of "being organic" with no official guarantee was at a disadvantage in terms of image, purchase intention, and price evaluated by the consumers. In addition, the respondents consider that below 75% of organic ingredients, the product is not really organic and does not perform significantly better on most measures. Contributions for manufacturers of green cosmetics and for institutions certifying them are discussed.

Key words: green products; organic; cosmetics; ethical; luxury

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Today more than ever, the green trend is a part of the world economy; more and more consumers eat green, drive green cars, use green electricity, wear green clothes and naturally, turn to green cosmetics. According to Euromonitor, the 5% worldwide growth of the cosmetic sector in 2007 was mainly due to the input of green products. Virginia Lee, Euromonitor International senior research analyst, was mentioning to the Wall Street Journal: "As consumers become more interested in what they're taking into their bodies, they've also become more interested in what they're applying topically to the body". In Europe, the market for organic cosmetics is extremely dynamic, with a growth of 20% per year. Organic Monitor, research institute specialized in agriculture, forecasts that in the future, sales of organic cosmetics should continue growing by 20% per year. Germany is the leading market in Europe with 6 billion euro sales per year (190 €/ second). France is the most promising with around 10% of all cosmetics claiming an organic origin. Organic cosmetics should represent almost 30% of the total cosmetics sales as soon as 2015 (Ecozept, 2010).

Taking into account the growth of green cosmetics worldwide, sustained by the booming of green food, and the lack of information on consumer behavior, there is a need to investigate what consumers understand of green cosmetics and the labels which certify this green origin. We chose to investigate French women, as France is a world leader in the research and development of cosmetics, the fastest growing market for green products and now Europe's third biggest market behind Germany and the UK (Natrue, 2010). Specifically, the purpose of our research is to explore the expectations of consumers regarding green cosmetics, in terms of production processes but also of performance, with a specific focus on organic cosmetics. In addition, we investigate the knowledge of green labels and how labels might influence the perception of the consumer regarding the "greenness' of a product. In a first part, we review the literature on green certifications and consumers' interest and understanding on green products and labels. Then, we expose empirical results: a series of in-depth interviews were conducted to explore the misconceptions of consumers regarding product content, production process and labels in the context of green cosmetics. We also discuss the results of a survey with an experimental design administered to 105 French women. The sample was exposed to a picture of a new shampoo soon to be launched in

France, with a manufacturer claim that the product is organic or a CosméBio label with different % of organic ingredients (10%, 50%, 75%, 100%). Product image, especially in terms of “greenness”, purchase intention, and price estimations are compared between products. Contributions for manufacturers of green cosmetics and for institutions certifying them are discussed in the last part.

LITERATURE REVIEW

Different levels of product “greenness”

Green is a vast concept and it needs to be dissected in order to be understood, especially if we are to make sense of the scope of what green actually can mean. Charter (1992, p16) argues that the consumers have been victims of a “greenwash” which had lead to an abuse of the green terminology and a lot of consumer confusion. Several terms are included in this “green” big label but they have very definite meanings which need to be clarified. For instance, an increasing number of goods start to claim that they are biodegradable, which essentially means that if wasted in the nature, the product will disappear faster than a conventional one. Other products claim they are biodynamic which involves a complete philosophy of taking and giving back to nature via using the most natural and sustainable production processes. A number of products mention they are ecological, meaning they pay respect to the environment in such a way that limited damage is done to it, yet often without clearly mentioning what it involves in the production processes. In the cosmetics industry, one of the most used claims is about products being “natural”, as found in nature, without chemicals or human transformations. Of course, this claim is very deceptive and is not for this reason being certified by organizations.

Last, our interest focuses on the latest trend in cosmetics, which is considered by experts as one of the megatrend which will sustain the cosmetic market: being organic. In the French market for instance, the most developed trend concerning green products is the organic one, especially pushed by the spectacular boom in organic food, which is considered healthier and of better quality. According to Organic.org (2010) organic means: “organic products and other ingredients are grown without the use of pesticides, synthetic fertilizers, sewage sludge, genetically modified organisms, or ionizing radiation. Animals that produce meat, poultry, eggs, and dairy products do not take antibiotics or growth hormones”. Organic products date back to the end of the 70’s when Dr Hauschka launched its first line of organic cosmetics. Yet, until the 90’s, major retailers and cosmetic manufacturers ignored the organic concept and organic cosmetics remained a niche category. Since a decade, major brands have created specific lines both in parapharmacies (eg. Beauté Bio by Nuxe) and in supermarkets (Agir Bio cosmétiques by Carrefour).

The boom of green products has been sustained by the development of official rules and codes regarding organic or ecological growing and the birth of a variety of certification labels which are supposed to help the consumer find his/her way in the bulk of products claiming organic processes of production. In the next section, we will briefly review the main labels found on the French and/or European markets.

A consumer bag full of organic certifications

Certifications might be obtained via private companies or via public organizations. For instance, as early as 1992, the European Union launched the Eco-label which encourages the production and consumption of green products in the European Union. This label might be obtained by a majority of product groups except food, yet the EU is currently studying the inclusion of food along all product and services group. Regarding cosmetics, this label guarantees that the production respects the environment, limits the use of dangerous substances, limits packaging waste and sets standards of biodegradability. It ensures an “ecological” production process but it does not certify that the product is organic. The number of licenses allocated is in constant growth, from 6 in 1996 to 1016 in 2010. The Eco-label is a project of the EU which is in constant evolution to adapt to the new market requirements. Although interesting for cosmetics, it lacks specifics to the reality of the cosmetics and personal care industry. Consequently, European cosmetic manufacturers have expressed the need for a certification more adapted to their industry. As such, the European label Natrue was founded by the pioneers of natural skincare. It delivers from one to three stars depending on the proportion of natural and organic ingredients, from one star meaning at least 75% natural ingredients in the finished cosmetic product to three stars meaning the product contains 95% certified organic substances. This label also focuses heavily on water restrictions and on packaging.

Although there is a real impetus of the EU and European third parties to develop unified norms in this field, the cosmetics market is still pretty neglected and national labels are those which are giving legitimacy to these products. On July 1st, 2010, a new organic logo was officially launched by the EU in order to provide consumers “with complete confidence that the goods (that are bought) are produced entirely in-line with the EU organic farming regulation, or in the case of imported goods, an equivalent or identical strict set of rules”. But once again, this new organic logo only concerns food or agricultural products, not cosmetics.

According to Global Cosmetic Industry (2009) “Soil Association (UK), BDiH (Germany), Ecocert (France), CosméBio (France), ICEA (Italy) and Ecogarantie (Belgium) are the leaders in the European cosmetics market. Combined, these agencies provide certifications to about 1,000 cosmetic companies and 10,000 products.” In France, the most famous label is the AB label which has been created in 1985 by the French Agriculture department for food. It guarantees that 95% of the ingredients are from organic origin. Another French label, Ecocert, covers a variety of product and service categories including cosmetics. Ecocert is a certification body which guarantees the genuine practice of environmental respect throughout the production line and the promotion of natural substances of a superior ecological quality. Cosmebio, the most widely used label for cosmetics in France created in 2002, adheres to Ecocert standards but is more focused on organically produced cosmetics. Though, to obtain the label, a minimum of 10% of the total ingredients should be organic. It also requires 95% of ingredients to be of natural origins. Last and extremely difficult to obtain, the strictest label “Nature et Progrès” is the only label requiring 100% of organic ingredients.

In France, other labels from foreign origins might be found on organic cosmetics distributed in specialized organic retailers. For instance, the label BDIH originates from the Association of German Industries and Trading Firms for pharmaceutical. To obtain the BDIH label wildly grown, natural and organic ingredients must be used as far as possible. The label though imposes no minimum content value for natural and/or organic ingredients.

All over the world, the demand in green products is growing and as such there is a concern for understanding how green is a green product. One of the most important restrains to the development of green products is the lack of consumer trust and the lack of information (Cervellon et al. 2010; Yiridoe et al., 2005). Clearly, a majority of European consumers are ready to engage in a more sustainable lifestyle and make greener choices in their purchases (Janssen et al., 2009). But they feel lost between the national labels and the European, the third party labels and the manufacturers’ claims (Courvoirsier and Courvoisier, 2005). In 2009, the European Commission issued a report on Europeans’ attitudes towards the issue of sustainable consumption and production. The awareness of the European Ecolabel was very low, 4 out of 10 citizens had seen it or heard about it. One out of two consumers also declared they did not trust producers' claims on the environmental performance of their products; hence, the interest for and use of official third party's certifications when making a choice. On a worldwide basis, the Green Brands 2010 survey which was conducted online and involved 9000 respondents across eight countries – Great Britain, France, Germany, the United States, Australia, India and Brazil – concludes for a strong commitment of consumers to purchase from green companies and a strong interest in green certifications. Respondents are interested in investing in green: one third declared they would spend more on green products in the next year (41% in France; more than 70% in China, India and Brazil). But consumers want to be assured they pay the price for real green. Aside from high prices (UK, France, US, Germany, Australia) and limited supply of quality products (Brazil, India), a major consumer concern is labels and certifications which are confusing or not existent, especially in emerging markets such as China. A large majority of the consumers use the certified labels as major criteria to choose a green product. For instance, 63% of the French consumers use the official certification labels to evaluate if a product is green. The same conclusion was drawn by a study conducted in Australia by D'Souza et al. (2007). Respondents found more credible third party labels supposed to be impartial experts and were casting doubts on the accuracy of a number of claims originating from producers.

In a nutshell, the development of green products is directly linked with the elaboration of serious criteria and impartial certification bodies which will help the consumer understand the legitimate "greenness" of its purchase.

Consumers' interests regarding green products and labels

Regarding both interest in green products and green certifications, demographics tend to play an important role (D'Souza et al., 2007). Yet, results seem rather inconsistent in profiling the green consumer. For instance, Magnusson et al. (2001) mention that women and young respondents (18-25 years) are particularly positive toward organic products. A decade earlier, Byrne et al. (1990) had also found that young females with a high school degree and above average income were most likely interested in purchasing more expensive organic products. On the other hand, Foster (2004) suggests that the over 45 years old consumers have a tendency to be more open towards green information. And overall, many studies also found no significant correlation between age and a green orientation at all (see Finisterra do Paco et al., 2009). Results are also inconsistent in terms of gender differences. Several studies found that women are more concerned by green issues than men and are more likely to engage in pro-environmental behaviors (Zelezny et al., 2000). This gender difference seems to emerge also in the youngest group of population and in a cross-cultural context (Beutel and Johnson, 2004). Yet, recently, qualitative and quantitative results found by Gronhoj and Olander (2007) do not support the existence of such a difference. Results are more consistent in terms of education and income. The green consumer is considered more educated and wealthier than the average consumer (Shim, 1995; Mintel, 2009). Yet, there appears to be a democratization of green purchasing in Europe and North America. Indeed, Laroche et al. (2001) found that there is a group of consumers which transcends the socio-economic boundaries and is willing to pay for the ethical credentials.

The research which has been conducted on the issue of why consumers choose organic is very detailed and conclusive. It highlights three main types of green consumers, along the primary motivations to purchase green; the health-conscious consumer who purchases for his own health benefits; the environmentalist who buys green as a contribution to the protection of the earth and the quality hunter, persuaded that green products have superior taste or superior performances. Consumers might have a mix of these motivations, but nonetheless one predominates in purchase contexts (Cervellon et al., 2010). Tsakiridou, Boutsouki, Zotos, & Mattas (2008) also found that environment, animal welfare, health and quality are major motivators for consumers to buy organic, at different degrees. In turn, Makatouni (2002) focuses more particularly on the attitudes of parents regarding organic food. The study suggests that parents, especially, have concerns about their consumption and tend to privilege organic products for health and quality benefits. Magkos, Arvaniti, & Zampelas (2006) also mention that health and increased safety are strong drivers of organic consumption. What exactly the health benefits are is a mystery to most consumers argues Barrett (2009). Producers should provide clearer information about what is green, what is organic and what type of health benefits consumers would gain by consuming organic products.

The major restraints mentioned in the literature to the development of green consumption are the elevated price as well as the lack of choice of these products. For instance, Tsakiridou et al. (2008) highlight the huge gap between the intention to purchase and actual purchase of green products, due to the trade-offs benefits - higher prices. Vacheret (2009) heavily criticizes the French Agence Bio, as this official organization claims that consuming organic is no more that 30% more expensive than conventional goods. According to Vacheret (2009) in reality eating organic is on average 72% more expensive that conventional food and 1 out of 3 products see a price difference above 90%. Makatouni (2002) further argues that if quality and health claims were met, at least price would be less of an issue. Yet many green products are deceptive. Deception very often arises from a misunderstanding of the nature of green products. It is true for food. It is even worse when the transformation of the product from raw materials to the finished goods implies elaborated processes of production such as eco-fashion products (Cervellon et al., 2010).

In the following section, we present the results of an empirical investigation aiming at understanding what consumers understand of green cosmetics and green labels.

EMPIRICAL RESEARCH

In order to understand the knowledge of consumers regarding green cosmetics, a set of studies (qualitative and a survey) were conducted in France among French women from 18 to 65 years old. The method and results of these studies are described in this section.

In-depth interviews

Method

In-depth interviews were conducted in French to a sample of ten French women with above average level of education (minimum high school degree). All were using regularly cosmetics, from traditional shampoo to moisturizing creams or anti-wrinkle creams. Two women were in their 20's; two in their 50's; the other six in their 30 and 40's with school age kids in the household. Four declared being regular users of green cosmetics such as Bio Beauté by Nuxe, Vegeticals, Weleda purchased mainly in parapharmacies or via internet. The other women were interested and had tried some green cosmetics a couple of times, mainly personal care products such as shampoo or shower gels; yet, they were neither loyal to any green cosmetic brands nor frequent consumers of green cosmetics.

The interviews adhered to pre-set guidelines but were conducted via an open discussion. First, women had to elaborate on their understanding of what is a green cosmetic. Then, they were asked their motivations and/or restrains to the purchase of organic cosmetics. In turn, they discussed their perceptions of the certifications and labels attached to green products.

Findings

Misconceptions on green cosmetics

Overall the women interviewed had a very superficial knowledge on what green cosmetics are. They all mention that green cosmetics use fewer chemicals and more natural products such as plant extracts and essential oils. In their view, green products are not tested on animals, and of course they are free of any type of animal extracts. Their understanding of green cosmetics is based on the analogy they make with food for the natural ingredients and with detergents for the avoidance of toxic substances.

"There are no animal extracts of course. Minerals yes, like diamond or pearl powder maybe in the luxury creams; hum, well musk is animal; is that green I am not sure; there are AB certified animals"

"Green cosmetics are produced without chemicals just like the detergent without phosphates"

Packaging is extremely important. To be considered green, the cosmetic must be packed with recyclable materials such as glass and must not waste too much material. In addition, they mention products elaborated via a traditional process, almost not industrialized.

"I like the brand Weleda but I find the packaging wastes too much material. I also read this comment from a consumer on internet"

"Simple formulas; not sophisticated; if I had time I could prepare the mixes with almond or Argane oil, rose essential extract (…) Chemists next door used to prepare those cosmetics on demand (…..) L'Oreal cannot pretend being green it is too technical"

All women consider organic products a more stringent form of being green. The ingredients have to be organically grown, without pesticides and without genetically modified plants.

“What proportion?.... all no? 99% of the ingredients at least; all ingredients might be purchased on the market organic… olive oils, green clay, essential oils”

Respondents are convinced that being green has to be an ingrained philosophy in the company. The Bodyshop, l’Occitane, Clarins, Sisley, Darphin, Caudalie, Nuxe are brands that are spontaneously associated with green trends. These brands are committed to the protection of the environment and the welfare of society. They have built their positioning around the use of plants and a philosophy of harmony with nature.

Selfish motivations regarding the use of green cosmetics

On one hand, women who were using green cosmetics were motivated by the protection of their own body. The main concern for these women was their health and the idea that chemicals might enter in their body via their skin and produce allergies, irritations or even more serious diseases which might be unknown today. The performance of the products was not questioned at all. Actually, they view green products as much purer in active ingredients which increases the power of the product, but also the cost. Based on this justification, these women are prepared to pay the premium. The idea that green products are positive for the environment is a plus, it is not the main reason for the purchase.

“Honestly, I purchase environment-friendly detergents but for cosmetics, no. I purchase green cosmetics because it is good for me”

On the other hand, women who are not using regularly green cosmetics cast doubts on the performance of these products for specific indications such as firming, anti-wrinkle etc. they have the impression that more sophisticated ingredients which are produced by “medicoindustrial" processes are more effective. Again in these cases, the protection of the environment is not a major issue.

"I use Ushuaia organic shampoo because of the nice non-artificial smell and I contribute to the protection of the earth… not bad; But for my anti-wrinkle cream, I trust Lancôme's research in genetics… I am running after time"

Lack of knowledge on green labels and certifications

Women refer to the labels or certifications which guarantee the products are green. Spontaneously, they mention the label AB because they expect this label to be present on organic food. For cosmetics, seven women mention spontaneously the label cosmétique Bio and describe visually the label. The other labels are not mentioned at all.

Two women, regular users of organic products, declare having a look at the list of ingredients to check which one is organic or not. The rest just checks if there is or not a label. They admit they do not trust the green claims from the manufacturers, especially when they have a limited knowledge of the brand, for instance when shopping online. When asked how organic should the product be to be carrying the label, they declare that in their mind the whole "should be"organic when wearing AB or Cosmétique Bio labels. When the interviewer explains the meaning of the label Cosmétique Bio, minimum 10% of organic ingredients in the final products, all women are very disappointed. Regular users of organic cosmetics feel fooled.

'This is deceptive advertising; it should not be allowed. What difference does that make on my skin 10% organic… but it makes a difference in my purse"

Survey

Method

Sample and data collection. The survey was administered face to face by two interviewers in two major malls with a major hypermarket, both of them being located in the south of France but in different cities. The sample gathering focused on women 18 and over, as they are the primary target consumers of green and organic personal care products and cosmetics. 105 women accepted to participate to the study. On average, women had 34.2 years old (SD 12.5) and were of French citizenships. This figure is to be compared with INSEE official figures on French active women, 70% being between 25 and 45 years old (INSEE, 2009). The average respondent had a monthly spending of €491.3 on grocery shopping (vs. the average French household €492, Insee 2009) and €119.4 a year on cosmetics. In terms of occupation, these women were representing the eight socio-professional French categories except for agriculture and blue collar. On average, these women declared that they were pretty interested in the protection of the environment ($M=3.7$ out of 5, SD .9)

Material and experimental design. Participants had to answer first a series of questions on their interest for environmental issues and their consumption patterns. Then they had to rank what would be their motivations to purchase organic products. The questionnaire also contained dichotomic questions on the knowledge of the 10 main green and ethical labels used in France with a possible open ended answer on the meaning of these labels. Respondents had to evaluate to what extent the label was an important criteria in their choices of green product on a scale from 1 to 5. Last, respondents were also asked to state freely the % of organic ingredients an organic product should contain to be considered organic.

Next, the respondent was exposed to a nice picture of Jurlique shampoo, a brand unknown in France. The picture was pre-tested on ten women to insure it was not evoking any French regular or organic shampoo. Underneath the picture, the respondents could read that the product would be launched in France in a near future. The sample was split in five at random and each group was exposed to a different condition. In the first condition, there was a simple mention that the shampoo was an organic shampoo. In the second condition, the respondents could see a CosméBio official label and read that the product contained at least 10% of organic ingredients; In the last three conditions, that it contained at least 50%, 75% or 99% of organic ingredients. In real, the CosméBio label validates bio cosmetics and personal care products when they contain at least 10% of organic ingredients. For the purpose of the experiment, the grading of percentages was based on the Natrue label which allocates one star for minimum 10%, two stars for 50% and three stars to minimum 99% of organic ingredients. The five groups were perfectly matched on age ($F(4, 100)= .15$, $p=.96$), and average spendings ($F(4,97)= .88$, $p=.48$ for grocery spending and $F(4, 94)= .75$, $p=.56$ for personal care and cosmetics). In addition, there was no significant difference between conditions on the socio-professional classes (Chi-square (24)= 22.8, p=.53). Last, there was no difference either on their levels of concern toward the environment (F(4,99)= .84, p=.50)

Then, respondents had to evaluate on a 5 point scale the product on a list of 12 adjectives (reassuring, ecologic, natural, organic, luxurious, healthy, expensive, sincere, ethical, better quality, durable, and reliable). They also had to evaluate their interest in purchasing such a product. Last, they were told that a conventional shampoo (same type but not organic) costs on average €5 and asked to state freely which price they would be prepared to pay such an organic shampoo.

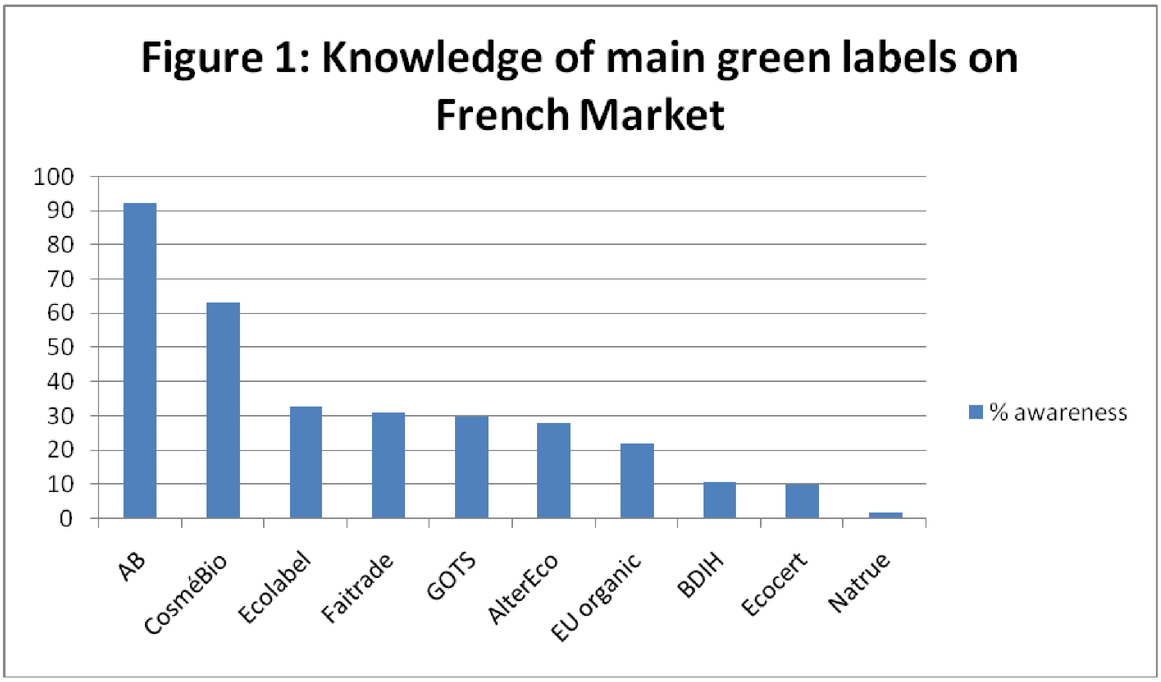
Results

Motivation to purchase

Overall the group purchases sometimes organic food (M=2.5, SD 1.1) but rarely organic cosmetics or personal care products (M=2.1, SD 1.1). When purchasing organic cosmetics, the top reasons are first, significantly, for personal health benefit (M=1.5, SD 0.7, t(93)=3.5, p=.00) , followed by the quality of the products (M=2.03, SD 0.8, t(91)=2.4, p=.02) and contribution to the protection of the environment (M=2.4, SD 0.8). These data are not dependent on age, occupation, level of spendings or interest for the environment (p> .010). Based on these results, we created three groups depending on the first motivation which would push the consumer to purchase organic cosmetics. The group health represents 49% of the total women, whereas the group quality 30% and the group environment 21%.

Knowledge of the labels

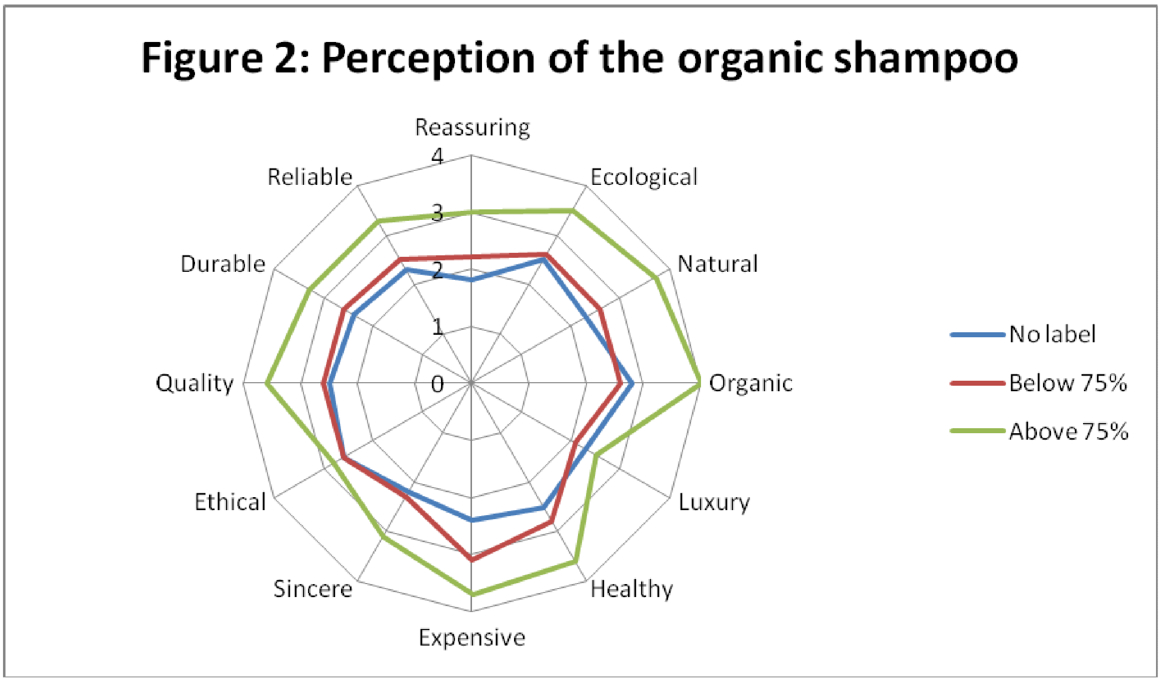
On average, labels are a very important criterion of choice (M=3,8, SD.9). Yet, most labels are unknown by the majority of respondents and their meaning largely misunderstood. The AB label is the most recognized by more than one out of nine respondents. Indeed, it is the most used in hypermarkets and dedicated to food. When respondents give a meaning to the label, they declare that it is providing an official guarantee that the product is 100% organic. Next, six respondents out of ten declare they know the CosméBio label. Again the meaning is that the cosmetics having this label are all organic and free of chemical substances. One third of the respondents recognize the labels Ecolabel, Fairtrade and GOTS (for clothes). Yet, except for a few, respondents cannot give an element of meaning to these labels. Respondents explained that although they had been rarely exposed to some of these labels, the logos are unique and as such easy to remember. The three labels which are least recognized are the german BDIH, Ecocert and Natrue, the three of them being accreditations on cosmetics and personal care products. A minority of respondents expressed freely their mistrust on these labels. They mentioned being lost within the organic markets as there are many labels with an unknown meaning.



In addition, respondents felt that to be certified as organic, a product should on average be compounded of three quarter of organic ingredients in the final product (M=73.6%, SD 27.9), which is the case of almost none of these certifications. For memory, cosmétique Bio, the most recognized label for organic cosmetics requires a minimum of 10% of organic ingredients… The purchase frequency of organic cosmetics had no significant impact on the percentage of ingredients which respondents felt was necessary in order to be classified as organic ($p=.85$); yet, the primary motivation to purchase organic did have a marginally significant influence ($F(2,99)= 3.2$, $p=.05$). Post Hoc tests using LSD procedure demonstrates that although the % of organic ingredient declared by respondents having as primary motivation health and the environment is the same (76.3% and 79.2% respectively), there is more tolerance on this percentage in the group which is motivated by a higher quality with 62.3%, - 14.5 vs. the group health ($p=.03$) and – 16.9 vs the group environment ($p=.03$).

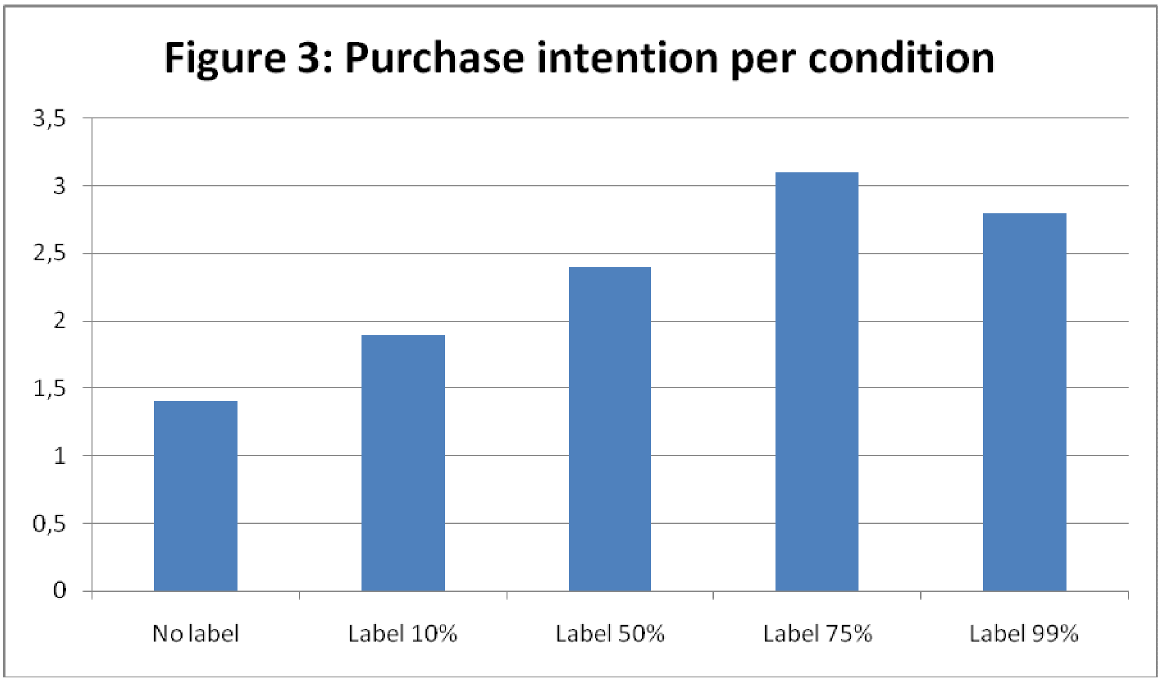
Perception of organic products with different levels of organic ingredients

Next, respondents - split in five conditions exposed to different levels of organic ingredients - had to evaluate the new organic shampoo to be launched on twelve different traits usually associated with organic products. A one-way ANOVA demonstrates that there are significant differences between the conditions on all adjectives except two; whatever the label or lack of, the shampoo is perceived similarly non-luxurious ($F(4, 85)=1.15$, $p=.33$) and similarly ethical ($F(4, 85)=1.61$, $p=.18$). A second finding is that there is no significant difference on the different adjectives between having 10% and 50% of organic ingredient on one side and between having 75% and 99% of organic ingredients on another. But there are differences between having no label, having a below 75% label and an above 75% label. For sake of simplicity, the figure below displays for each adjective the means for these three consolidated conditions. As one might notice, with a label displaying a percentage of ingredients higher than 75%, the shampoo is better evaluated on all adjectives and LSD post Hoc comparisons reveals that all differences are significant at $p<.05$. In addition, there is no difference between having a label claiming below 75% of organic ingredients and no label but just a manufacturer claim except on the adjective expensive. LSD post Hoc comparisons reveal that the mean difference -1.25 is significant at $p=.000$. When adding the factor primary motivations in the model, we discover no main effect for this factor but an interaction effect for the adjectives ethical $F(4,81)= 2.95$, $p=.025$ and sincere $F(4,81)=2.18$, $p=.07$. The group which chooses organic cosmetics for health benefits tend to distrust the sincerity of the no label shampoo much more than the other groups and the group which chooses organic cosmetics for environmental benefits tend to find less ethical the below 75% organic labels than the other groups.



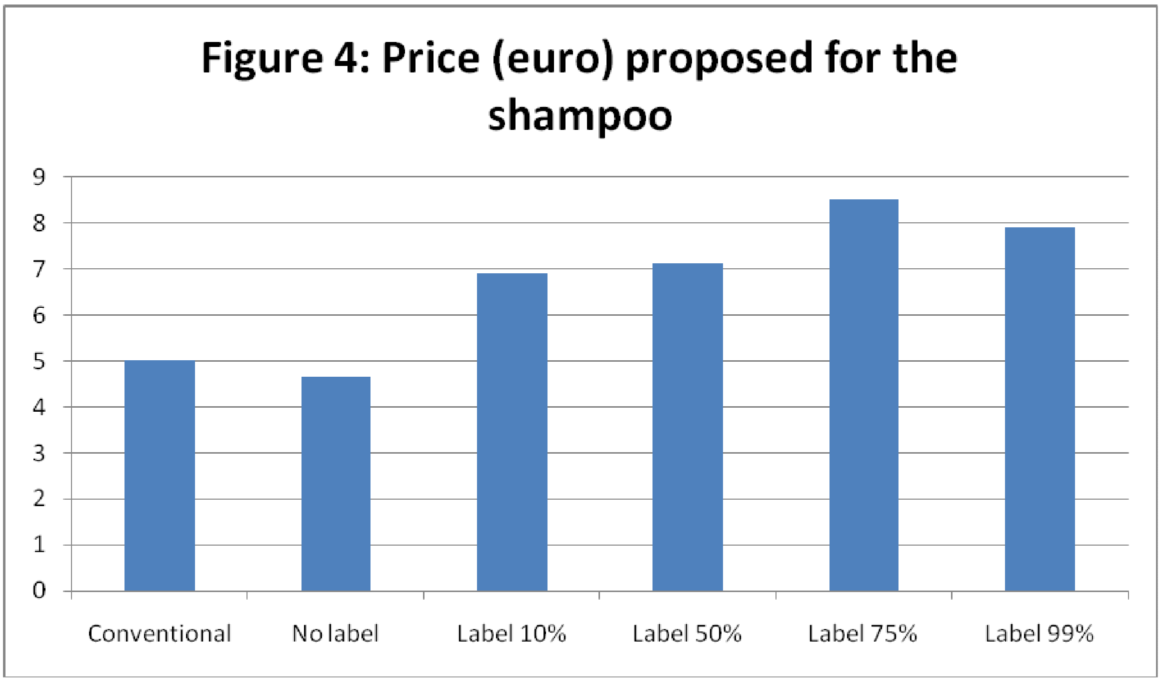
Purchase intentions depending on the label meaning

Purchase intentions for the product with no label are very low (M=1.4, SD .5). As shows the bar chart below, respondents are more willing to purchase the shampoo when it claims 75% organic and 99% organic than when it claims 10% or 50% organic. A Univariate analysis of variance with purchase intention as dependent variable and conditions and motivational groups as fixed factors demonstrate that there is a significant increase of the intention to purchase the product based on the percentage of organic ingredients presented ($F(4, 80)=3.71$, $p=.008$). The groups are not affecting the intention to purchase neither as main factor ($F(2, 80)=1.8$, $p=0.17$) nor as an interaction ($F(8, 80)= .842$; $p=.108$) except marginally. Yet, we notice that the group motivated by health benefits is the one which has the lowest intention to purchase the cosmetic when there is no label and in turn the highest intention to purchase the product when it taps the 75% of organic ingredients (M=1.3 SD .5 and M=3.7 SD .4).



Consumer estimated price depending on the label meanings

Last, participants had to decide on the average price they would be prepared to pay for this shampoo knowing a regular shampoo is worth 5 euro. Overall, the respondents agree to pay a premium for a shampoo containing organic ingredients when there is a guarantee. They would be prepared to pay on average 40% more for a product having 10% and 50% organic ingredients (M=7, SD 3.6 and M=7.2, SD 2.6 respectively). Also, they would accept a premium of more than 60% for a product having 75% and 99% of organic ingredients (M=8.5, SD 1.4 and M=8, SD 3.7). Interestingly, they would pay less than the conventional price for an unknown organic shampoo which is not controlled by a third party (M=4.65, SD 2.3). Overall, prices are influenced by the % of organic ingredients mentioned $F(4, 80)=3.15$, $p=.02$ but not by any other factors such as age, occupation or motivations to purchase Bio.



Discussion

This research is one of the first which addresses the issue of green and organic certifications, and to our knowledge the first which deals with organic cosmetics, which is a booming market all over the world. The first finding which corroborates other researches on green products (eg. fashion, Cervellon et al., 2010) is the lack of information that the consumer has on green products in general and green cosmetics in particular. In the domain of food products where raw materials are less affected by transformations, it is easier to figure out what green or organic means. When consumers deal with products that go through an elaborated process of production such as cosmetics or clothes, it is much more difficult to understand. Consequently, consumers tend to trust blindly the labels that guarantee the organic origin. Our results show that in the domains of cosmetics, labels are a major criterion of consumer choice.

Yet, consumers, even when being regular purchasers of organic cosmetics, do not know the meaning of these labels. They have a misconception that the labels guarantee an almost 100% organic final product, when for instance to get the label cosméBio a minimum of 10% organic ingredients is required in the final product. This issue is important to rise, because these labels might be misleading the consumers. The development of organic labels for cosmetics is still in its infancy. Particularly, the EU is working on harmonization of standards and controls and the development of a unique European label for all Union members. To be understood by all union consumers and avoid being deceiving, the percentage of organic ingredients which is guaranteed should be explicitly stated.

Our research also provides a clear answer to companies that might wonder if it is worth going through the burden of organic certifications. Additional costs incurred might be huge. Aside to the application and auditing fees, companies might have to adapt the manufacturing equipment and other environment dependent processes. Stenzel (2000) estimates that in the US, certification costs might range from 10000$ to 100000$ for a mid size company up to 1 million$ for a multinational. Yet, our research shows that if a cosmetic company wants to take advantage of the organic trend, it needs to demonstrate its true "organic" content via a trustworthy label. In our study, the shampoo which had a manufacturer's claim of "being organic" with no official guarantee was at a disadvantage in terms of purchase intention, especially for the majority of women who purchase organic cosmetics for personal health reasons. In addition, respondents were not prepared to pay a premium for this product.

An additional finding important for manufacturer is that there is a ceiling level in the proportion of organic ingredients required to be perceived as organic. Below 75%, the product is much less appealing on all dimensions such as organic, ecological, natural or even sincere. Yet there is no difference in the eyes of our respondents between a product containing 75% and 99% of organic ingredients. In addition, the premium that our respondents are prepared to pay for these percentages is the same. This is an interesting finding for manufacturers that might want to trade off costs-benefits of these additional 25% or so of organic ingredients.

As we discovered in our qualitative results, women who engage in organic cosmetic purchases are convinced that these products are very performant in addition to being secure because they are stronger and purer in active substances. Yet, below a minimum proportion of organic ingredients, they cast doubts on the effect on their health, their well-being and their beauty. They even might feel fooled when they overestimate the percentage of organic ingredients. Manufacturers should take this element into account when deciding to pursue an organic production. The decision is rather being really organic (above 75% organic ingredients) or not being organic at all. It is not that much a matter of degree.

This research presents a number of limitations due to a limited and non representative sample of the French women population. Results have to be replicated on wider and more representative samples, and of course in countries where green cosmetics are more developed such as Germany or where certifications are being discussed at national level such as China. However, this paper raises important questions and tries to answer to some, at a time when there is a gap in the EU legislation regarding organic cosmetics and an impetus to harmonize the national certifications for green products. We hope we open fruitful avenues to both researchers and official commissions for discussions on green products in general and green cosmetics in particular.

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