

How digital tools such as Social Listening contribute to more sustainable solutions

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Abstract

When developing new products, it has become mandatory not only to consider economical aspects but also environmental and societal impacts. KLORANE has launched solid references with the aim to contribute actively to reduce water consumption. During development, researchers have addressed several aspects regarding water consumption such as the quantity of water used for manufacturing & transport, but also the rinsability of the products. Two examples (KLORANE Mango solid shampoo and Aquatic Mint purifying stick mask) are presented here and show how Social Listening can feed the approach with complementary insights.

Social Listening was performed on Ratings & Reviews collected in France, with a specific attention to reviews containing words such as “rinse”. Sensory test was conducted on the solid shampoo and included the measurement of rinsability. Consumer Home Use Tests were conducted to evaluate the consumers perception. Life Cycle Analyses were also performed to quantify impacts of products from raw material extractions to their elimination at end of life.

Ratings & Reviews highlighted that ~4 300 consumers spontaneously talked about rinsability, which constitute a clear subject of interest, over-represented on solid shampoos. Sensory tests and consumer Home-Use-Tests, performed prior launch, revealed that both products were perceived as easy to rinse. Life Cycle Analyses highlighted an improvement of water consumption. The analyses of Ratings & reviews of the two products after launch confirmed their good performance spontaneously perceived by consumers.

When used prior development, Social Listening was useful to confirm that rinsability is a topic for consumers, in line with the brand strategy. It was also instructive, after launch, to demonstrate that the efforts from developers to reach a good level of rinsability, as confirmed during blind Consumer Home Use Tests, became concrete and spontaneously commented for consumers when using the products.

Key words: *Ratings & Reviews, Consumer Perception, Rinsability, Solid cosmetic, Digital*

Introduction

In the light of the present knowledge, when developing new products, it has become mandatory not only to take into account economical aspects but also environmental and societal impacts. Pierre Fabre Group and Pierre Fabre Foundation are helping meet 16 of the 17 UN Sustainable Development Goals [1]. One of the two goals on which Pierre Fabre Group has the most impact is number 12, "responsible consumption and production".

KLORANE, as part of Pierre Fabre Group, has launched several solid references with the aim to contribute actively to reduce water consumption. During development, researchers have addressed several aspects regarding water consumption such as the quantity of water used for manufacturing & transport, but also the rinsability of the products.

Recently, with the increase of online shopping, digital tools and data analyses, Social Listening has become a trendy tool [2], [3], [4], among which the analysis of Ratings & reviews [5], [6].

In the present approach, two examples of products are presented with the aim to show the complementarity of several tools from the Life Cycle Analysis until final assessment with the analysis of Ratings & reviews. The results of intermediate studies conducted during development, such as sensory test and consumer Home-Use-Tests, are also presented.

Materials and Methods.

KLORANE Mango solid shampoo and Aquatic Mint Purifying stick mask are presented here. In the present study, a specific focus is done in France/on French consumers. Social Listening was performed on Ratings & Reviews collected in France, during 2021, from more than 12 sources and, covering more than 100 brands overall. Specific attention was paid to sub-categories (facial cleansers and shampoos, respectively) and to reviews containing words such as "rinse". To monitor the performance of the two KLORANE products after launch, a second round of analyses was performed on the last 12 months [ie. 05-15-2021 to 05-15-2022 period].

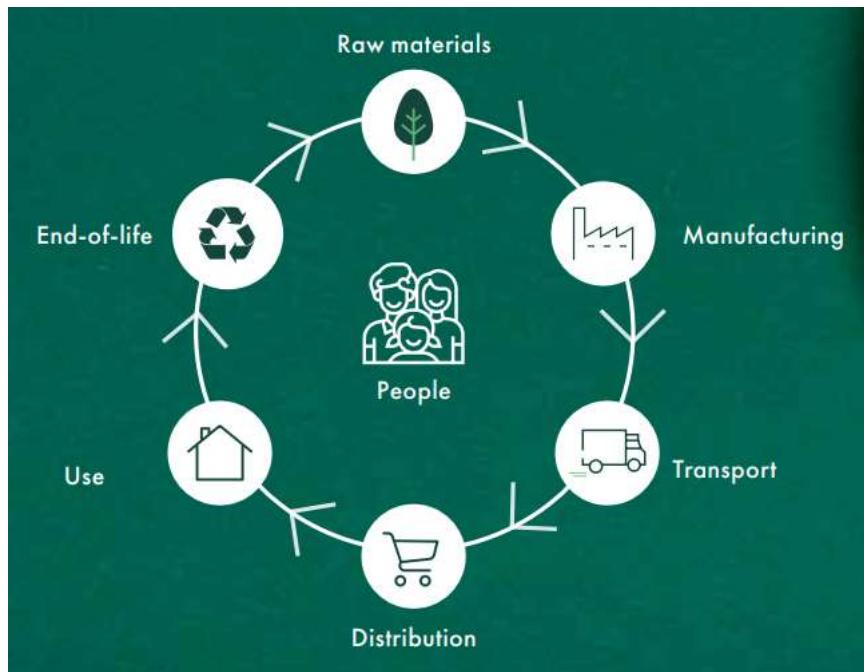
For the Mango solid shampoo, a sensory test where the rinsability was assessed was conducted, based on ISO 13299 [7] recommendations, thanks to trained hairdressers. Sensory tests were performed on 12 volunteers with dry hair, corresponding to the Mango shampoo indication. In addition to hair condition and texture aspects, the hairdressers recorded the time needed to rinse the hair, allowing to calculate the number of litres needed.

Consumer Home Use Tests were conducted in France, with 138 and 68 target consumers, respectively for Solid shampoo and Purifying stick mask, in accordance with ISO 20784 [8].

For both products, a Life Cycle Analysis (LCA) was performed with an external company, to quantify impacts of a product from raw material extraction to its elimination at end of life. Life Cycle Analysis is a global and multi-criteria tool to evaluate environmental impact (*FIG. 1*). This standardized method makes possible to measure the quantifiable effects of products or services on the environment. It makes possible to determine the share of each stage in the life of a product in its overall impact, and thus to carry out the most effective reduction

actions. For both products, the Life Cycle Analysis listed and quantified the physical flows of materials and energy associated with human activities throughout the life of a product.

FIG.1: Life Cycle analysis criteria



The Aquatic Mint stick mask was compared to a “classical” facial cleanser product from Pierre Fabre laboratories; the Mango solid shampoo to a liquid one.

Results

1- Overview about rinsability subject with Social listening

~4 300 reviews among a total of ~190 000 reviews spontaneously mention something about “rinse”, which represent ~2% (*FIG 2 and FIG 3*). The most commented categories about this subject (*FIG 4 and FIG 5*) are shampoos (~1100 reviews, representing 7.5% of the category), hair-care masks (~500 reviews; 12%), shower & bath (~500 reviews; 5%) and facial cleansers (~450 reviews; 6%). When narrowing down on the shampoo sub-category, rinsability is over-represented among solid shampoos. It is mentioned in ~12% of the solid shampoos reviews (*FIG 6*).

Even if it is not the main conversation topic, this constitutes a clear subject of interest, on all these categories and particularly on solid shampoos.

FIG.2: Total volume of reviews - 2021

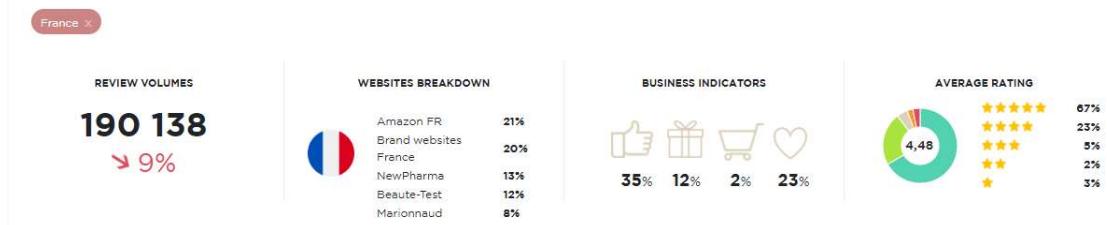


FIG.3: Reviews mentioning "rinsability"

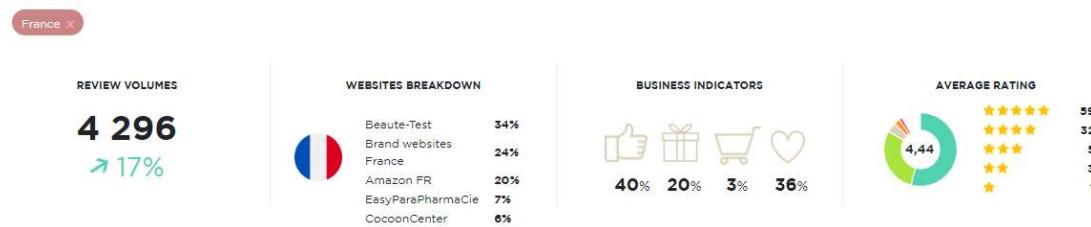


FIG.4: Categories most associated with "rinsability"



FIG. 5: Most associated categories with rinsability:

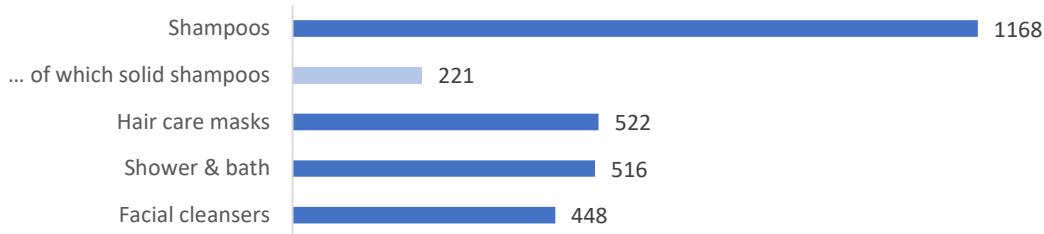
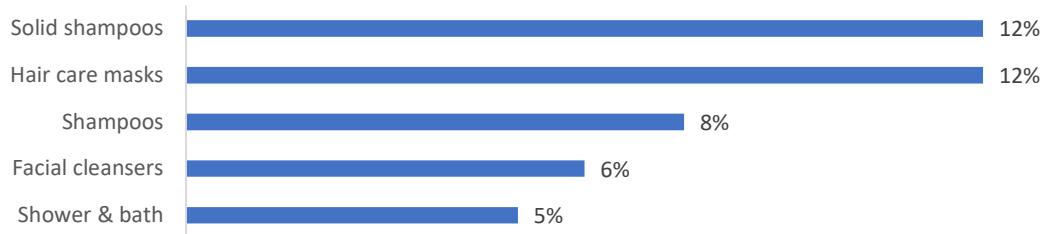


FIG.5: Weight of rinsability mentions among categories



2- Life Cycle Analyses

a. Mango solid shampoo

For the shampoo bar, it was determined that 1 bar equals 32 washes, as much as 2 bottles of 200 ml. The Mango solid shampoo allows to save 9.21L of water/use compared to a liquid one, allowing to save 235 L of water for the total use for each sold unit.

b. Aquatic Mint purifying stick mask

For the Purifying Stick Mask during manufacturing, the Life Cycle Analysis highlights that 83% of water and 25% of CO₂ were saved compared to the liquid facial cleanser taken as reference.

3- Perception tests

a. Mango solid shampoo

The sensory test results shows that ~19 seconds are necessary to rinse half of the head. This result was compared to an internal database and highlighted that the time to rinse the Mango solid shampoo, was one of the lowest regarding hair care products, and shampoos.

During consumer Home-Use-Test, performed prior launch, 39% of the consumers declared they had the impression to use less water with the tested solid shampoo than with a regular shampoo [ie. liquid] and 94% agreed with the statement “easy to rinse”.

b. Aquatic Mint purifying stick mask

During consumer Home-Use-Test, performed prior launch, 21% spontaneously commented that the tested product is “easy to rinse off” and 97% agreed with the statement “easy to remove”.

4- Post-launch analyses with Social listening

Post-launch Ratings & Reviews analysis of the two products confirms their good performance as perceived spontaneously by consumers. In the past 12 months, Klorane Mango solid shampoo and Klorane Aquatic Mint purifying stick are the two most reviewed products in general (among a scope of 122 brands) (*Table 1*). They're also the most reviewed when the subject "rinse" is mentioned. Additionally, among "rinsability" reviews, they are the best and the third best reviewed products in terms of ratings (*Table 1*). This could be interpreted as a clear advantage for web-users who are concerned by rinsability.

EVOL.	PRODUCT	VOLUME	AVG RATING	LAST PERIOD
NEW	aquatic mint - purifying ...	155	★ 4,79	-
NEW	mango - solid shampoo	147	★ 4,63	-
+ 2	naturally good - shower g...	64	★ 4,50	51
+ 72	dexyane - protective clea...	49	★ 4,78	11
+ 17	ultra doux - honey treasu...	40	★ 4,45	30
NEW	elsève dream long - 8 sec...	37	★ 3,78	-
+ 409	infusion hydration - masq...	35	★ 4,80	2
NEW	colour protect - colour a...	34	★ 4,41	-
NEW	naturally clean - exfolia...	30	★ 4,47	-
+ 355	ultra doux - camelia arga...	29	★ 4,52	2

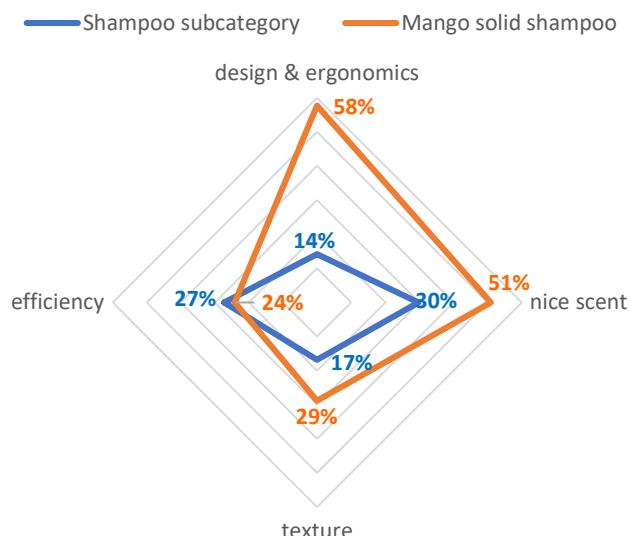
EVOL.	PRODUCT	VOLUME	AVG RATING	LAST PERIOD
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NEW	mango - solid shampoo	147	★ 4,63	-
+ 2	naturally good - shower g...	64	★ 4,50	51
NEW	ultra doux - honey treasu...	40	★ 4,45	-

TABLE 1: Most reviewed products and best rated* products (*when n>40)

a. Mango solid shampoo

The Mango bar shampoo is the most commented shampoo: it accounts for 13% of the shampoo sub-category reviews. It is also and among the best reviewed (rated 4.62 vs 4.46 for the shampoo subcategory). The shampoo is favoured for its nice scent (mentioned in 51% of the reviews), its design & ergonomics (58%), its texture (29% of the reviews) and its efficiency (24% of the reviews), as illustrated *FIG 7*.

FIG. 7: Top attributes (Mango shampoo vs. shampoo category)



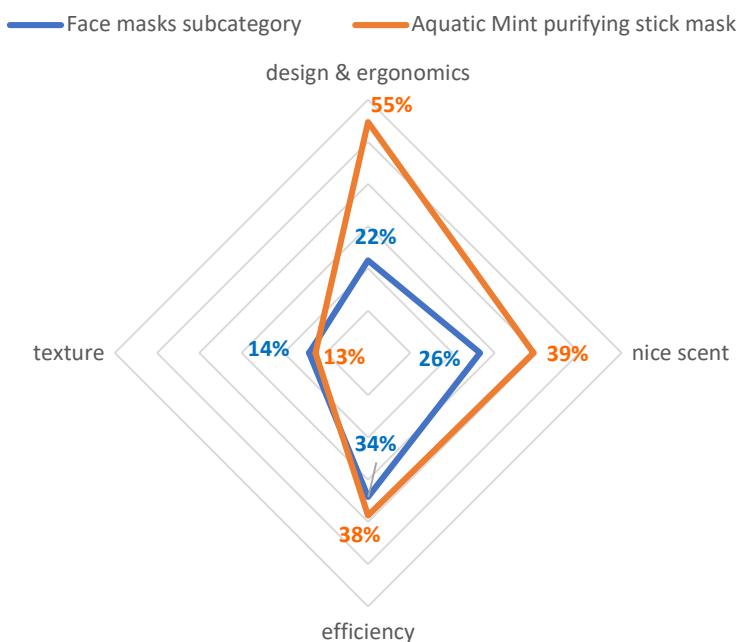
Those items are correlated and contribute to slightly higher ratings: the associated ratings are between 4.64 and 4.70 respectively when they are mentioned.

Among web-users who write about rinsability, this product performs better than the average of all other shampoos combined (4.63 vs. 4.44 for the shampoo sub-category). Moreover, rinsability is strongly associated with positive comments: « Easy to rinse » is mentioned in 71% of the reviews discussing rinsing.

b. *Aquatic Mint purifying stick mask*

The Aquatic Mint Purifying stick mask is also the most commented product of its sub-category over the past 12 months. It gathers 26% of the reviews of the Face cleansing masks sub-category. It is also the 6th best rated (4.78/5), mainly due its nice scent (39% of the reviews, 4.79/5), design & ergonomics (55%, 4.79), efficiency (38%, 4.77/5) and texture (13%, 4.81/5), as shown in FIG 8.

FIG. 8: Top attributes (Aquatic Mint stick mask vs. Face masks sub-category)



All attributes are correlated and contribute to high ratings.

For this product as well, for web-users who write about rinsability, this product slightly outperforms its competition (4.79 vs. 4.62 for the subcategory). Rinsability is always associated with positive comments; « Easy to rinse » being in 62% of the reviews mentioning rinsing. Its recommendation rate (96%) and the emotional rate (43%) associated with this product is higher among people who commented rinsability than among the total of reviews (respectively 92% and 38%).

Discussion

Besides the commitment to UN Sustainable goals, previous consumer studies were conducted to specifically understand and get insights about products rinsability and water consumption, when using rinse-off products. They were built to investigate these specific subjects.

On the other hand, in the present approach, the Social Listening analysis highlighted that, spontaneously, the subject of rinsability is raised by consumers, showing that it is a clear subject of interest for consumers. This is in line with the Klorane brand strategy since rinsability of the product is one part of the total water consumption. The Social Listening analysis confirms that it is worth to consider it while developing new rinse-off formulas, not only because this is a strategic subject for cosmetic industry but also because, a number of consumers pay attention to this aspect of the formulas.

During development of the two products, the studies enable researchers to select prototypes which combine good tolerance, sensory and efficacy performance as well as a good rinsability performance. A final check with target consumers through Home-Use-Tests confirmed that the selected prototypes filled all the criteria, including good rinsability, and that the products could be launched with confidence regarding the formula.

From the other side, the Life Cycle Analyses objectively showed improvements for both developed formulas compared to non-solid references.

Finally, the rating & reviews analyses once products were launched in the market, allowed to check what consumers talk about and perceive from the two products. For the two products, consumers spontaneously commented their good performance in terms of rinsability, which is clearly identified as a strength, among others. This monitoring confirmed what was observed during development studies when optimising prototypes and validating the selected ones. Social Listening provided useful information in general about the products once in the market, but more specifically about rinsability. As reported by Ramachandran *et al.* [5], various studies on online product reviews indicate a consistent trend of significant positive relationships between the product reviews and the sales/profitability of the products/services. The performance of the products in ratings & reviews is thus a relevant indicator to follow on top sales and business indicators. The good performance of the two products constitutes a promising sign for the future, and particularly for solid cosmetics, when optimised.

To meet the needs of consumers who expect brands to design increasingly eco-friendly products and make strong commitments, a tool for rating environmental and societal impacts was developed by Pierre Fabre laboratories. Klorane solid shampoos and Aquatic Mint purifying stick mask have an A score, which means that the products are eco-socio-designed: the packaging gets maximum points because it integrates recycled materials, is recyclable and offers an optimal weight to volume ratio. The formula is biodegradable, and the number of ingredients is limited. The products are manufactured in France, in a factory certified for the environment ISO14001. By buying those products, the consumer contributes to support the environmental and societal commitments of the brand Klorane which supports the actions of

Klorane Botanical Foundation, corporate foundation for the protection and enhancement of plant heritage.

Conclusion

Social listening approaches are now very easy to use with the global digitalisation and tools developed in this area. The ratings & review analysis was very helpful to understand consumers and their perception of products and product rinsability. It is relevant for researchers to develop more sustainable solutions. Since it is perceived by consumers, it confirms the interest to develop more sustainable solutions that will be adopted by consumers. By helping consumers to adopt new consumption attitudes, researchers have the possibility to reduce water footprint while thinking the products from manufacturing to final consumption.

The different tools used were complementary to understand consumers perception of rinse-off formulas in general, to screen and assess the prototypes under development, to objectively quantify the impact of the two products during its whole life cycle and finally, to monitor the performance of the products once launched in the market. All these tools serve the global Pierre Fabre Green Mission objective of reducing water footprint by 20% in 2024 compared to 2018 and, is helping meet UN Sustainable Development Goals "responsible consumption and production".

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Conflict of Interest Statement

NONE.

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