CRITICAL ANALYSIS METHOD FOR WEBSITES PROPOSING HEALTH PRODUCTS

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I-INTRODUCTION

In this day and age, the internet is one of the main sources of information used for both personal and professional reasons (1). Most people have access to the internet (2), but equally the web can be a tool for manipulation and can contain low quality information (3). As a result, we should assess the reliability of the information we find on the web.

The aim of this piece is to propose a step by step method allowing everyone in search of medical information to analyse the content of websites offering health products. Within this method are different factors which can influence our judgement concerning the relevance of these health products.

These factors allow us to determine how trustworthy the information found on the website is. It should be noted, however, that they do not allow us to learn of the efficiency of the products or techniques offered by the website. Therefore, it is important to review this information heavily, especially in terms of their methods.

II- CRITICAL ANALYSIS METHOD FOR WEBSITES

Factors that require our attention are often referred to as “red flags”. Examples of these are the author’s conflicting interests, the omission of sources or the use of false arguments. It is important to learn how to identify these elements in order to ensure that the information is reliable.

Below are several areas in which these red flags can be found.

1-The Author

Firstly, it is important to identify the creator of the piece. The author can be an official body (such as the National High Authority for Health (HAS), an independent public authority), a commercial business, an individual, etc. and their perspective may differ accordingly. It is equally important to identify the author’s competencies in relation to the subject. What type of
degree, title or experience do they have? Has the author published any other works? This allows us to award them some credit to the points they put forward. Do they have conflicting interests, including financial ones, which can influence his judgement in favour of the product?

In fact, a study carried out showed that systematic reviews in which the investigators had financial conflicts of interest were five times more likely to come to the conclusion that there is no link between the consumption of sugary drinks and obesity, than those who were not affected by these conflicts of interest (5).

“Financial bias is the event in which a study, or investigators, funded by an industry has a greater chance of obtaining favourable results for the beneficiaries.” (6).

Due to these results it is important to be aware of the fact that an individual who has connections to a product can, intentionally or otherwise, exaggerate its efficiency or play down its side effects.

2-The Availability of Sources

In order to verify the points put forward, the site must make its sources available in a sufficiently clear manner. The presence of these sources is vital to confirm that it is scientifically valid (7). Our attention must be alerted if even one source is unavailable.

If there are indeed sources, it is essential to further analyse their reliability: are they from scientific reviews, websites, books, etc.?

When faced with experimental studies, it is important to go even further to carry out a thorough analysis. However, these evaluations, although important, are not the subject of this article.

Example: The website “http://www.kt-sportsfrance.fr/” offers KT Tape products and specifies their use and their effects; yet not one source is found on the site, making it impossible to validate the information found there (8).

Another red flag to be on the lookout for when analysing the sources of a site is “argumentative flooding”. The author can try to trick us by inundating us with information. Thus, quality is replaced by quantity in order to give the impression that the information is not all false. “In reality each of these arguments taken separately are very weak, but when all together, they seem convincing, as a set of arguments can be. (…) it is difficult to challenge
each and every one of these arguments, because they combine competencies of a great number of individuals” (9).

Example: The website “https://www.powerbreathe.com/” makes a number of important scientific articles available to support the aims of its product. It is necessary to verify the quality and rigor of these studies and ensure that they do, indeed, back up the affirmations they supposedly support (10).

3-Impact Words

3-1 Definition
Impact words are derived from using the “denotation” (the fundamental meaning of a word or phrase) and the “connotation” (the emotive reactions which words can create). In effect, “two words can thus denote the same thing, but can also have very different connotations: positive in one case or negative in another.” (11). In order to mention a specific element, the author chooses one word rather than another to provoke certain psychological effects upon the reader.

3-2 Some examples
As Henri Broch notes in his work, a person’s perception of the severity of a car accident will be different if the phrase used is “a car that banged into another vehicle” as opposed to “a car that crashed into another vehicle” (4).

In terms of war, numerous euphemisms are used. For example, it is common to use the term “collateral damage”, rather than “civilian deaths” (11).

When the subject of abortion is raised, the use of the terms “baby” or “foetus” does not provoke the same emotional impact (11).

In the health field, the following example can be seen: “(...) after having carried out studies, Japanese researchers found that the radiant heat coming from FIRs could be a potential antidote against the negative effects from toxic electromagnetic sources.” The word “antidote” can be considered here as an impact word. The author could have used a term such as “treatment” but “antidote” produces a stronger image of permanent healing (12).

3-3 Be vigilant
The importance to give to this indicator isn’t just a question of semantic justification. In effect, one study, showed the influence that the word “brain” has on the perception of an educational product. A brochure titled “Right Brain” was judged as more interesting, educational and scientific than an exact copy of the brochure entitled “Right Start”. Upon seeing the effect produced by one simple word “brain”, all readers must be vigilant and learn to look out for these words which are used to generate a strong effect and influence our perception of the efficiency of a health product (13).

4-Appeals to Authority

4-1 Definition

“An appeal to authority is the act of replacing the value of reasoning with a reference to words spoken by a person viewed as an authority in the subject in question.” (14).

As pointed out by Baillargeon, “It is impossible for us to be experts in every area and therefore, we must consult the authorities of these huge varieties of subjects and rely on their knowledge.” This argument can, thus, be valid when the authority in question is legitimate. He specifies, however, that “Even when trusting in the opinions of experts is justifiable, it is wise to maintain at least a small amount of scepticism” (11).

This point is, however, nullified as deigned a sophism if the aforementioned authority is not reliable or is used to replace a rational or empirical argument.

4-2 Some examples

In advertisements, the sight of laboratories and white coats is present to reinforce the image of scientific validation.

In terms of the health field, the example of the brand of dental products Oral B can be studied, which make use of this point. “Make the right choice: choose Oral-B, the #1 brand used by dentists themselves worldwide.” The brand uses the influence of dentists to convince us of the efficiency of the product that they want us to purchase (15).

4-3 Be vigilant

And so, we tell ourselves: “If dentists, who are qualified to judge a dental product, choose this, then I’m making the right choice too.” However, we must keep in mind that even the
experts can be mistaken or have conflicts of interest. It is important to analyse the experimental evidence of a product before judging its efficiency. As Carl Sagan says, “Appeals to authority hold little weight; authorities have been mistaken in the past; others will be in the future. In other words, in science, there is no authority: at best, merely experts.” (11).

5-Celebrity endorsement

5-1 Definition

This is a variant of the argument of authority. This point consists of using the notoriety of a celebrity to give a guarantee of quality to a product or technique. As stated by François Grandemange “Calling in a star or a celebrity on a TV level to feature on an ad, during tele-shopping or on a flyer is always good for sales. The logical error (when the sole objective is not only identification to the celebrity) and the marketing use that charlatans take advantage of originates from the common belief that a celebrity or a specific area specialist is also an expert in other fields, while in reality, they have no expertise in those fields whatsoever” (16).

5-2 Some examples

Shakira was the poster-girl for Activia yoghurts in 2014. The marketing director of the brand explained on the channel M6 that Danone is “the brand of well-being, it’s the brand of the belly for a large portion of French women. Shakira, from this point of view, embodies exactly what Activia wants to be. It’s the brand of well-being that helps women to feel good and the brand of the belly.” Regulations prohibit food brands from discussing the health benefits of their products. A marketing professor then explained that brands try to “find people who legitimise the role of the products and their health benefits for the consumers.” (17).

Illustration 1: Shakira – Activia
(http://activiamagazine.vps026.dgnus.net/fr)
In the field of health, this is what can be found on the Winback website: “Like David Ferrer (professional tennis player), many athletes across the world treat and prevent injuries with WINBACK. David Ferrer, very satisfied with his new acquisition has recently published a photo with this caption on his social network: “Introducing my new partner in the daily recover and treatment of injuries”” (18).

5-3 Be vigilant

A star or high-level athlete can be seen as legitimate in their domain, yet when he or she supports a health product, they are no longer qualified. Although their fame gives them a certain level of authority, their expertise does not allow them to evaluate, nor affirm the product and its quality.

Another example is that of the media coverage of Australian singer Kylie Minogue’s diagnosis of breast cancer in 2005. This brought about a 40% increase in bookings for breast cancer screenings in the two weeks following the announcement, as opposed to the two preceding it. The impact that celebrities have on health is, as can be seen here, significant. Let’s remain vigilant and do not blindly follow any celebrities; as in the example, it was mostly women between the ages of 40 to 49 who caused the increase in screenings, when in the end screening is for an older age group (19).

The “as seen on TV” effect is another point, which is derived from the appeal to authority. Lozenges that mention “seen on TV” or “seen in X Magazine” suggest that a product’s presence in the Medias awards it a certain quality (14).

Illustration 2: Perko t-shirt site web (https://www.percko.com/)

6-Appeals to Customer Reviews

6-1 Definition

This consists of using a review in the guise of proof in order to convince the reader.

6-2 Some examples
In the healthcare field, on the website www.bougezchezvotrekine.fr, which describes the use of the HUBER® 360 appliance, we can find the following claim: “Rapid, visible results from the first use*”, “*in reference to 41-year-old Karine’s review: “the effects were fast. From the first to the second use...”. The proof of the supposed efficiency thus rests on a review (20).

6-3 Be vigilant
We often put a lot of faith in reviews, which can seem like a guarantee of quality.
The DGCCRF (Directorate-General for Competition, Consumer Affairs and Prevention of Fraud) has characterised diverse, misleading practices that are used, such as the publishing of false reviews, the suppression of negative comments or the deferred publication of reviews by the authors in order to make the positive opinions seem to be the most recent ones (21).

Even facing a review published completely in good faith, several factors could come into play in order to explain a positive experience with a health product regardless of the actual efficiency of the same product. It is an example of the placebo effect, or the natural evolution of illness, based on the fact that a number of pathologies have a spontaneously resolutive evolution over time. The response to placebo is defined as the improvement of a symptom in an individual who has received a fictitious treatment and hopes to have an effect

7-Appeals to Popularity

7-1 Definition
“We will say that something is fair, good, beautiful, desirable, etc., as it is the opinion shared by many” (11). This point is based on following the thoughts, or copying a large number of people, assuming that it is the right thing to do because it is the most popular opinion.

It is based on the principal of social customs: “The principal essentially applies to situations where we try to determine how we should behave. We judge a behaviour to be more appropriate in a particular circumstance if we see other people behaving that way”. “Generally, we make fewer mistakes when we conform to the signals given to us by the social group rather than going against them.” (11).

7-2 Some examples
This red flag appears in marketing through mentioning things such as “100,000 copies sold”, “Thousands of women use this homemade cream to rejuvenate their facial skin and get rid of wrinkles!” (22).

In the health field we can take the example of the website LPG médical, which uses the popularity point in the following form: “200,000 people treated every day in the world”, “75,000 referent centres in 110 countries”, “5,000 collaborators” (23).

![Illustration 3: LPG medical site web](https://www.lpgmedical.com/fr/notre-mission/)

### 7-3 Be vigilant

However, even if the product sold 100,000 copies, this does not prove that it is useful, but rather that it sells, either by itself or thanks to its advertising campaign. Although 200,000 people use the product, this does not mean that it works. As Baillargeon explains: “(…) The fact that everyone thinks something, does something or believes something is not in itself a sufficient argument to come to the conclusion that it is fair, good or true” (11).

### 8-Links to nature

#### 8-1 Definition

This argument rests on the belief that if something is natural, it’s good. Alternative therapies often boast of being natural because this creates a positive image.

#### 8-2 Some examples

For example, on a homeopathy website it states, “Thanks to homeopathic medicines the body gains immunity in an entirely natural way which allows it to heal by itself, without the aid
of chemical treatments” (24). There is often opposition to these chemical products as they have a darker image.

In the field of health, we can take the marketing tactic of the product, the “Champ de Fleurs” as an example as it is largely based on this sales argument. The name in itself is a call to nature, it refers to a carpet covered in pointed pieces, or as the site describes “221 stimulators in the shape of lotus flowers, each of which have 25 pointed petals.”

In product’s description we can find the following phrases: “The Champ de Fleurs is, to the best of our knowledge, the only method which allows pain relief from pinched discs in a healthy and natural way”, “Thus, the pain relief is achieved in a completely natural way. Unlike non-steroidal anti-inflammatories and corticoids, the endorphins are good for the nervous system and the body in general.” (25).

Illustration 4: Le champ de fleurs
(https://www.lesmauxdedos.com/commentcamarche.html)

8-3 Be vigilant
In the minds of some if something is natural, it cannot be bad. Yet numerous poisons are present in “nature”, as well as “natural” disasters. It is essential to not allow yourself to be seduced by a link to nature because it does not prove that the product is good, nor better than another.

9- Appeals to Antiquity
9-1 Definition
This point’s origin is found in the social representation of being old; we think of old things as having a certain wisdom, authenticity or know-how.

It is the act of seeing something as good, true as even better simply because it is old.
9-2 Some examples

This argument is often found in advertisement: “Marboré, offering you a huge range of clothes that have evolved while keeping the traditional character of their production thanks to an unchanged expertise dating back to 1882.” (26).

In the world of health, we can find the following description on a Chinese medical website: “Benefitting from multiple millennium’s worth of experience, it is reliable, ethically sound, efficient and free from harmful side effects...” (27).

Illustration 5: Yunnan Tuocha tea

9-3 Be vigilant

The long-term use of a practise does not prove its effectiveness; we can fool ourselves for a very long time. The use of leeches, for example, went on for years, and has long been misused.

10 Appeals to Novelty

10-1 Definition

This consists of stating that an object or idea is better because it is new. This argument is based on the belief that when a change is made, it makes the original better.

“The reasons for success of an argument this poor, are based on a trend of believing that new products are stronger, go even further and are more efficient.” (14). These products are often presented as revolutionary and innovative.

10-2 Some examples

Let us take electronics as an example, “The iPhone 7 spectacularly improves the iPhone experience, even in its most fundamental aspects. It introduces ultra-sophisticated
photography systems. It offers performances and independence never seen before on an iPhone.” (29).

Illustration 6: Colgate innovation

In the field of health, on the websites of certain recent health products, we can find the following descriptions: “The Tecarthérapie is a recent revolutionary technology made for physiotherapists, osteopath and sports doctors.” (30).

“K-Taping® quickly became an important pillar in modern therapy.” (31).

10-3 Be vigilant

However, just because something is new does not mean that it is good. The Power Balance® bracelet was a fashionable product between 2008 and 2010. It was being presented as a "revolutionary new product" to improve balance, strength and flexibility (32). The product will be condemned in 2011 for misleading advertising. Let us be alert to the pretended benefits of new products. Novelty is not always a guarantee of efficiency or quality

III-DEMONSTRATION

To illustrate our subject, we chose the site "www.lesmauxdedos.com", which offers health care appliances that can be used by an individual or a professional, such as in physiotherapy management.

We will now put the presented method of analysis into action in order to determine to what degree we can trust the website “www.lesmauxdedos.com”, offering the device “Nubax”.

1-The Author

The author, Alexis Mertens, is the founder and editorial manager of the site. A graduate from business school, he is said to have left his career in Banking IT to devote himself to “natural health”. And so, he does not have a degree in the field of health, and yet we suppose that he
knows sales and communication techniques. Furthermore, he is the founder of “BILOKA Sarl”, the first European distributor of the “Champ de Fleurs” product and different products offered on the site. Thus, the site was not created by an independent. Here the site advertises the presented products in order to sell them. And so, there exists here a link of financial interest between the owner of the site and the products. Due to this, we must remain vigilant and critical of the information put forward.

2-The Availability of Sources
On the website there is a section entitled: “Tests cliniques” (Clinical Tests), which directs us to numerous scientific articles as a reference. The author of the site is playing on the mass effect. This is a demonstration of the “argumentative flooding”. Of the 50 studies indicated, only one, the first, is about Nubax. We have access only to the summary of this study entitled "A randomized placebo controlled trial of the management of non-low back pain using the Nubax vertebral distraction device" by K. Pearce, G. Allison, T.Ackland). The site was not able to provide us with the publication of the study. So we can not judge the methodology.

The numerous other studies focus on spinal decompression, vertebral pain and pathologies. It would seem that the author of the site has taken the results of these studies and applied them to his appliance.

3-Impact Words
The site suggests that we download an explanatory booklet. The following phrase is found on the first page: “The Amazing story of a Natural, Powerful and Little-Known Remedy.” The words used here; “remedy”, “natural” and “powerful” are impact words. The word “treatment”, which is certainly more commonplace, could have been used instead of the word “remedy”. The words "natural" and "powerful" have a strong impact on the reader, but their use here is vague. What is a powerful remedy? Pointing out that the appliance is not well known gives us the feeling of being privileged.

4-Appeals to Authority
In the review section, our eye is attracted to the University of Toulon’s logo. It is associated with the review of Didier Bertand, a sports service teacher (University Service for Physical and Sports Activities, SUAPS). In other words, a sports professor practising at the University of Toulon. The mention of the university represents an appeal to authority which aims to
strengthen the value of the appliance. The review of a P.E teacher from a college would not have same influence as the aforementioned professor.

We also find an image of doctors in white coats on the website, which is a demonstration of the appeal to authority.

5-Celebrity endorsement
A promotion video made by Daniel Narcisse is found on the YouTube page of the site. The site uses handball champion’s fame to put forward its product. The users identifying with the player can see this promotion as a guarantee of quality. Yet an athlete’s expertise does not allow them to confirm the quality of a product (35).

This red flag is similar to that of the “as seen on TV” effect. In fact, in the “reviews” section, the website mentions the Europe 1 radio, “Nubax has been spoken of on Europe 1”. The purpose of this phrase is to give credibility to the device. Yet, upon listening further, it is clear that they are the words an auditor boasting of the benefits of the product. It is ultimately nothing more than a simple review. Not one expert has given a clear recommendation for the usage of the device (36).
6-Appeals to Customer Reviews

The following phrase is found on the site “(...) every day, we are sent reviews of cases of recovery and relief and the clients are often delighted with their return to health. They find that they all hold the key to getting better and better by themselves.”

Indeed, it is possible to leave a notice via an online opinion site “TrustPilot”. Let us be vigilant with regard to false testimony and bear in mind that even sincere testimony is not sufficient evidence.

7-Appeals to Popularity

“Our experience with our 2,400 French clients, allowed us to found that 19 people out of 20 decide to keep the device” after a 30-day trial period. “Since its launch in October 2012, Nubax already has several thousand customers in France; and we have a recorded a customer satisfaction rate higher than 90%.” Although the number of users stated here can be convincing, these claims do not prove the product’s efficiency. Furthermore, we do not have any references allowing us to trust these figures, or know of the method used to measure the customer’s satisfaction.

8-Links to Nature

The site’s logo contains the phrase: “Natural care and relief from back pain”. The website also boasts of having “(...) already helped tens of thousands of French consumers to take care of their back in a natural way.”

The author also explains that “After having changed his life thanks to natural health, he left a career in Luxembourg as an independent consultant in Banking IT in order to devote himself to natural health.” The site makes many references to nature to reinforce a positive image.
9-Appeals to Novelty

A video presentation of the device is available on the website. From the start, we are warned that “We’re going to show you a revolutionary back-care device!” This claim, however, does not prove the product’s efficiency.

IV-CONCLUSION

After having analysed the website “lesmauxdedos.com” (and more specifically its promotion of the product “Nubax”) with our step by step method, we can see that there are a number of important elements requiring our attention.

Little trust should be put into this website. However, our approach does not allow us to judge the efficiency of the product. In order to do this, we must continue our critical analysis with other sources of information and analyse the possible other studies that may be carried out on the product.
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