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THE IMPACT OF TYPE OF LANGUAGE AND NUMBER OF REASONS ON PURCHASE INTENT

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Abstract

In many industries, as competition gets more intense, differentiation becomes increasingly more important and brands need to communicate their product advantages. There are many different ways of communicating product benefits, and many firms choose to use very specific technical terms in their communication. An experiment was conducted, replicating a real decision making situation, using claims with daily versus technical language and manipulating the Number of Reasons presented to support the product's benefit. Then, Purchase Intent was measured according to the claim used. Results indicate that, for low involvement products, the use of technical terms without explaining them, as well as presenting one versus two reasons, has no impact on Purchase Intent. Results are discussed.

Keywords: Technical Language, Number of Reasons, Purchase Intent

Introduction

As competition becomes more intense in many sectors, firms need to differentiate from each other (even in products that were seen as undifferentiated) and to get the consumers to understand and beware of the distinctiveness of each brand (Levitt, 1980). There are many different ways to differentiate a brand or a product from the competitors. A product can be differentiate through packaging (Rundh, 2005), environmental policies (Reinhardt, 1998), "customer involvement in production or delivery" (Song, Adams 1993), etc and also through communication (Boulding, Lee, Staelin 1994). Communication, beyond of being itself a way to differentiate a brand, is also very important to inform consumers that a brand is superior (in price, product, placement, or any other aspect).

Consumers and people in general have a need to find explanations. That is why we are always looking for causality relations and we infer causality from correlation (sometimes times wrongly) (Cheng, 1997). Consumers look for reasons to explain why a brand is better than other, and thus, to explain their choices. They can find an explanation for their choices by different means, as trying each brand or talking to people that used the brand before (word-of-mouth), or they can also rely on product communication. That is one of the main communication goals: to explain consumers why to buy that brand and not another one. But, how should communication provide the reasons for a consumer to buy it?

In the struggle to be different, technical improvements are made and, many times, particularly in product categories that are not easy to differentiate, firms choose to use very specific technical terms in their communication (Meeds, 1998). Let's define technical terms as terms that are specific to an area of study and are not familiar to most part of consumers (Teng, Huang, Hsieh 2009).

The question is, should firms use technical language when communicating product's benefits?

We should bear in mind that the effectiveness of each type of communication depends on the type of product that is being communicated. (Petty, Cacioppo and Schumann 1983; Teng, Huang and Hsieh 2009) Given that consumers are more willing to search and collect information when buying high-involvement products, it is expected that they will make an effort to understand the technical terms and will value more the products based on the information given by the technical terms. But, in what concerns low-involvement products, consumers are not willing to spend much effort in collecting and analyzing information about the product, hence it is not clear whether consumers will give any value to the technical information provided about low-involvement products.

Being very specific, the use of technical terms opens a wide range of possibilities for a brand to differentiate, but, as consumers are not familiar with technical terms, some questions may arise about the benefits of using technical terms in communication, particularly if we are talking about low-involvement products. Moreover, many times technical terms are used without explanations of what they are and how they work. (Meeds 1998)

Given the great amounts that are spent every year in communication, it is very important to know what is the best way of communicating and, particularly, if firms should or should not use technical terms when communicating, this is, does the use of technical terms lead to an increase in sales? This work project proposes to study what is the impact of the Type of Language when communicating low-involvement products and not providing information about what the technical terms are and how they work.

Another interesting aspect about communication is how much information should be communicated to the consumers and if the firms should focus on one single reason to explain the benefit provided by the product or if they should communicate more than one reason.

Taken together, this project studies the combined effects of Type of Language and Number of Reasons on Purchase Intent.

Literature Review

Knowing, for example, that the vowels contained in a word give different dimensions to the words (Sapir, 1929); that the different vowels in a word also influence the way people classify them as being darker or lighter (Newman, 1933); and that phonological similarity of words in a message affects the ability of people to recall it (Watkins, Watkins and Crowder, 1974), it is easy to realize that the Type of Language and each single word used in a message affects the way the message is perceived by the audience.

We also know that people pay more attention to content words, while many times skip function words. (Just and Carpenter, 1980). Content words are nouns, verbs, adjectives and adverbs, and function words are pronouns, articles, conjunctions, quantifiers and prepositions. (Segalowitz and Lane, 2000). So, content words have a greater influence on the way a message is perceived. As technical terms are content words, it is very important to understand how they are perceived by consumers.

There are some arguments against the use of technical terms in communication, without explaining what they are:

Most part of people is not familiar with technical terms. For example, many times people confuse drug names (Lambert, Donderi and Senders, 2002), because they do not have any knowledge about what each drug is and what their benefits are. Moreover,

people take more time to read a message with infrequent words (Just and Carpenter, 1980) like is the case of technical terms and Lautman and Percy (1978) concluded that, consumers face problems in understanding what a firm means when it uses technical terms. This happens because in order for consumers understand the meaning of a message it is necessary to provide "relevant contextual knowledge" (Bransford, Johnson, 1972), that is, the commercials should provide some important information, as for example, what the technical terms are and how they work, before using technical terms.

According to the model of Bradley and Meeds (2004), the probability that a message will influence someone (P_I) is based on the probability of the message being comprehended (P_C) times the probability of the subject generate positive elaborations (P_{E+}) plus the probability of the subject generate negative elaborations (P_{E-}). This can be written as:

$$P_I = P_C [P_{E+} + (1 - P_{E-})] \quad (1)$$

This means that, a message can only influence someone (positively or negatively) if it is comprehended. So, it is possible that people do not understand the message due to the use of technical terms and, thus, they will not be influenced by the message.

Explaining the technical terms used make it easier for consumers to understand the message, which contributes to an increase on Purchase Intent. (Bradley and Meeds, 2004).

There is another important argument against the use of unexplained technical terms in communication: If the message containing the technical terms is not comprehended, it can be judged as irrelevant or non-confirming the benefits the product should provide and the dilution effect can occur, making consumers' beliefs about the benefits of the product weaker. (Meyvis and Janiszewski, 2002).

Finally, in an experiment conducted by Anderson and Jolson (1980), consumers revealed lower Purchase Intent after reading the more technical ad. But this experiment used a high-involvement product and consumers that read the technical ad perceived the product to be more expensive and more difficult to use. This is not likely to happen with low-involvement products, like a shampoo.

On the other hand, there are some arguments in favor of the use of technical terms. Consumers faced with literally true claims, sometimes infer the product benefits to be higher than they really are (Preston 1977, Shimp 1978 and Burke, DeSarbo Oliver and Robertson 1988), because people tend to believe the claims are true and assume that the information provided is good for the product. That is why it is possible that, even not knowing the meaning of a technical term, consumers assume that it is positive for the product, otherwise it would not appear in the claim.

Moreover, argument quality does not have a big impact on the attitudes of consumers buying low-involvement products, (Petty, Cacioppo and Schumann, 1983) so even if consumers do not understand the technical terms and consequently the argument; it is not a big problem, because low-involvement consumers are more persuaded by other type of signals.

It was found that the use of technical language in witnesses' testimonies on a civil trial increases its credibility, so it should also increase the credibility of a product claim. (Horowitz, Bordens, Victor and Bourgeois, 2001).

Additionally, in a study about music video ads, Hitchon, Duckler and Thorson 1994 found that ads with a lower level of ambiguity are better evaluated by consumers. As specific technical terms are less ambiguous than general non-technical terms, it is expected that ads with technical language will be preferred.

Finally, Teng, Huang and Hsieh (2009) concluded that using technical language has a positive effect on ad attitude and product evaluation. Purchase Intent was not measured.

Taking all the above arguments in consideration the following hypothesis is proposed:

H1: The Type of Language used in low-involvement product claims has an impact on Purchase Intent. Using a more technical Type of Language, even without explanatory context, increases Purchase Intent.

Another interesting question concerns the amount of information that should be used in a product claim. Does communicating more reasons for consumers to buy a product increase Purchase Intent? What is the effect of Number of Reasons?

There are some arguments supporting the use of fewer causes. For example, Lombrozo (2006) conducted an experiment in which people evaluated explanations with just one cause as being more satisfactory than explanations with two causes, but being more satisfactory is not the same as being more credible or more persuasive and, in that experiment, the reasons were not given in an advertisement.

Moreover, using too many technical terms can reduce comprehensibility and negatively affect the consumers' perceptions (Joiner, Leveson and Langfield-Smith, 2002), but there should be not any big difference between using 1 or 2 technical terms.

Obviously, using a claim with more reasons increases the complexity of the claim, and many studies indicate that our cognitive system normally prefers simplicity. It compresses data and is always looking for the simplest patterns (Feldman, 2000; Chater and Vitányi, 2003), so our cognitive system seems to prefer simpler explanations. There are many situations that show this preference for simplicity: the way we discount causes

in some circumstances, when more than one cause is presented (McClure 1998); lateral inhibition, that consists in our cognitive system focusing on one piece of information while suppressing lateral information; and gestalt laws of closure are all examples of how our cognitive system tries to simplify information. Moreover, syntactic complexity can influence attitudes (Lowrey 1998) and it makes messages harder to process (Bradley and Meeds 2002) and to recall. (Bradley and Meeds 2004).

Another argument in favor of communicating just one reason is that consumers always infer that, beyond the cause that is being communicated, there are other causes that contribute to the effect or to the provided benefit and that those causes can be taken for granted (Cheng and Novick, 1991).

On the other hand, there are situations in which we prefer the more complex options, and thus, there are arguments supporting the use of more causes in communication. The conjunction fallacy represents one of those situations; when facing a combination of events versus a single event from that group, people tend to think that the combination is more likely to happen, although it is logically impossible. (Tversky and Kahneman, 1983).

Moreover, we tend to believe that if a product is more complex, it means it is more effective. Steven Levitt (2008) shows that "seatbelts are as effective as child safety seats", but the majority of people believe the children safety seats are more effective, just because they are more complex (harder to use and more expensive).

Finally, a higher number and diversity of reasons provided can make the conclusion more plausible (Heit, 2000). Petty and Cacioppo (1984) also found that for low involvement decisions the number of arguments plays an important role, while for high involvement decisions the quality of the arguments is more important.

Bearing all these arguments in mind, the following hypothesis is proposed:

H2: For low-involvement products, claims providing a higher Number of Reasons that differentiate the brand, lead to higher Purchase Intent than claims presenting fewer reasons.

Methodology

Sample

Sixty four Management and Economics undergraduate students, between 18 and 20 years old, 61% female and 39% male, participated in the experiment that consisted in looking at a shampoo package and evaluating how likely it was that they would buy it. Each subject was shown and has evaluated just one shampoo package. Subjects did not know what was the purpose of the experiment nor did they know that there were different shampoo packages.

Package and Experimental Design

To measure the possible impact of the use of technical terms in sales, it is necessary to measure the Purchase Intent in conditions that replicate a real decision making situation. The majority of studies about Type of Language faces subjects with ads and then measures the Purchase Intent or the attitude towards the ad. Considering that the attitude towards an ad or the Purchase Intent based on an ad sometimes do not correspond to the real "Purchase Intent", the experiment has to simulate a situation closer to a real decision making situation. So instead of visualizing an ad, subjects analyzed a real size picture of the product. The product used in the experiment were shampoo packages, because it is a low-involvement product with which almost everyone is familiar and is a product category where technical terms are often used.

The pictures of the shampoo packages were created using Adobe Photoshop CS3. To prevent subjects from making any connection between the shampoo package presented and any other existing brand, that could influence the results, the package was as simple as possible. The shape of the package was rectangular and the picture just contained the fictitious name of the brand, a picture of some flowers and a claim about the benefits provided by the shampoo. (See Appendixes 1, 2, 3 and 4) There were four different types of claims, according to a 2 (technical terms or non-technical terms) X 2 (one ingredient or two ingredients) between-subject factorial design.

Number of Subjects

Number of Reasons / Type of Language	1 Ingredient	2 Ingredients	Total
Non-Technical Type	16	15	31
Technical Type	16	17	33
Total	32	32	64

Hence, there was a claim using one specific technical term, a claim using two specific technical terms, another one using one general non-technical term and, still, another one using two general non-technical terms. The specific technical terms used in the claims are specific ingredients contained in the shampoo. The ingredients are real ingredients that are used in shampoos and bath gels, but they do not actually strengthen the hair as stated in the claims. This should not be a problem as most part of people does not know what those ingredients are and people tend to believe in what brands say. The attitudes toward each ingredient were not pre-tested, so to avoid the possibility that, for some reason, an ingredient is more likely to be seen as a really good hair strengthener, three different ingredients were used and rotated. (The ingredients used were “Allantoin”, “Citronellol” and “Triclosan”). This way we guarantee that the evaluation

those claims will get is not explained by the specific ingredient mentioned in the claim, but by the use of technical terms.

The claim was the only difference between the shampoo bottles.

Question

The experiment was run in 3 different groups of about 20 subjects each. The instructions given verbally were as simple as possible, to guarantee that the 3 groups were given exactly the same information, thus, it was just said that they were participating in an experiment that consisted in evaluating one shampoo. Then the experiment sheets were handed out. Each subject received only one experiment sheet, thus, each subject evaluated only one shampoo package. The experiment sheet asked subjects to imagine that they wanted to buy a shampoo to strengthen their hair and presented a picture of a shampoo package. Below the picture, subjects were asked to evaluate how likely it was that they would buy that shampoo. The evaluation was made using a Likert Scale from 1 to 7, in which 1 corresponded to "very unlikely" and 7 corresponded to "very likely". (See Appendixes 1, 2, 3 and 4)

Data Treatment

In order to analyze if there was a main effect of the Type of Language and/or a main effect of the number of ingredients, as well as an interaction effect between both variables, ANOVA 2 way was applied using SPSS Statistics.

To use ANOVA, the variances of the populations must be equal. To test this hypothesis, a Levene's Test was conducted ($p>.3$), thus we cannot reject the hypothesis that the variances of the four treatments are all equal, hence ANOVA can be applied.

Results

The averages of each treatment are presented in the following table:

Averages

	1 Ingredient	2 Ingredients	
Non-Technical	3,0625	2,7333	2,9032
Technical	2,8125	2,9412	2,8788
	2,9375	2,8438	

ANOVA was applied to test the impact of Type of Language and Number of Reasons on Purchase Intent. (See Appendix 5)

The test of the hypothesis that the means for technical language and for non-technical language are equal ($p>0,9$), showed that we cannot accept the hypothesis that the means are different, so there is no main effect for Type of Language. This means that it is indifferent to use technical or non-technical language in claims, because the likelihood that a person will buy the product is the same. H1 is not confirmed.

Testing the hypothesis that the means for "1 ingredient" and for "2 ingredients" are equal ($p>.7$), reveals that we should not accept the hypothesis that the means are different, so there is no main effect for the number of ingredients. This means that presenting 1 or 2 ingredients in claims does not change the likelihood of someone buying the product. H2 is not confirmed.

By the same reasoning, there is no interaction effect ($p>0,5$).

General Discussion and Directions for Future Research

Given that none of the proposed hypotheses was confirmed and that the lack of difference between groups cannot be explained by a floor or ceiling effect, because the averages are not close to the lower/upper limit of the scale, it is interesting to try to understand why the results were not as expected.

As mentioned in the Literature Review, drug names and specific ingredients are not familiar to most part of people (Lambert, Donderi and Senders, 2002), thus to guarantee that people understand the message and the unfamiliar words, it is important to provide some explanations before using the technical terms (Bransford, Johnson, 1972; Shore & Kempe, 1999). As the claims used in the experiment just stated the benefit provided by the ingredient, not explaining what is the ingredient and how it works, it could be that subjects did not understood the message, as happens many times when technical terms are used in communication (Lautman and Percy, 1978). Not comprehending the message, subjects are not influenced by it, according to Bradley and Meeds (2004) model (already explained in the Literature Review). This is one possible explanation for the lack of difference between groups.

But, even if subjects understood the message, there is evidence that when taking low-involvement decisions the quality of the arguments presented is not very important. Other aspects, as, for example, the product endorser, are more important to influence consumers (Petty, Cacioppo and Schumann, 1983). So, it could be that subjects were more influenced by the look of the shampoo package than by the claim on it. As the packages were all equal, it is normal that there is no difference between the means of each group. In the future, it could be interesting to study the influence of using technical terms in claims of different high-involvement products. We cannot guarantee that the results obtained in this study will be replicate for a different type of product.

There may be another reason for the results of this experiment. Subjects may have evaluated the shampoos with a technical claim as being superior to the others, but at the same time they may have considered that those shampoos would be more expensive, as happened in Anderson and Jolson (1980) experiment. That can explain the lack of impact of Type of Language on Purchase Intent. In this case, there would be two

different effects that balance each other: the product would be evaluated as being of superior quality, which would increase Purchase Intent, but at the same time, it would be judged as being more expensive, which would decrease Purchase Intent. This could be the explanation for the lack of difference between groups. In a future study, to avoid this hypothesis we should provide information about the price of each shampoo.

There is another possible explanation for the results. In the Literature Review it is said that consumers tend to believe in the information given in product communication and that many times they even believe that product benefits are higher than it is literally stated in product communication (Preston 1977, Shimp 1978 and Burke, DeSarbo Oliver and Robertson 1988). This may be true for real brands that people know and trust, but, as in the experiment a fictitious brand was used, people did not have any reason to believe in the given information and, thus, the claim had no impact on the Purchase Intent. It would be interesting to repeat the experiment made for this study, but using a known and credible brand, and then measure the impact of using technical terms. Probably consumers, even not knowing what the ingredients were, would believe they provide real benefits and the Purchase Intent would increase.

Taking into consideration that subjects did not consider the information provided by the claim important for their decision, the presence of 1 or 2 ingredients in the claim also did not have any influence in their evaluation. Moreover, even if just one ingredient or one reason is presented, consumers know that there are additional reasons beyond that that explain the benefit (Cheng and Novick, 1991), so providing 1 or 2 reasons may not have any impact on Purchase Intent. However, using a larger difference in operationalization, for example, 1 vs. 3 or 4 reason, may have an effect on purchase impact.

Given the limited scope of this research, there are some other issues that would be interesting to study. The sample used in this study was just composed of Management/Economics undergraduate students, but consumers with different age and backgrounds may react differently to the same communication (Haugtvedt, Petty and Cacioppo 1992). In the future, this experiment can be repeated using a different sample, to study how different consumers with socio-demographic characteristics react to technical language.

Another limitation to this Work Project was that the attitudes toward each ingredient were not pretested. Three different ingredients were used and rotated to overcome this limitation, but only with a pretest we could guarantee that the specific ingredients used in the experiment had no impact on the results and that those are just a consequence of the use of technical terms, independently of which technical terms are used.

Another important aspect was not taken into consideration when analyzing the impact of using technical purchase in product claims. Language influences not just the comprehension, but also the attention that people pay to a message. In the experiment conducted in this study, the comprehension of technical language played an important role, but the attention did not. It is necessary to study if a claim with technical language grabs more attention than a claim without technical language, because if the consumers do not pay attention to technical language, naturally, it would not have an impact on Purchase Intent.

Finally, in the experiment, another option should be introduced beyond the four versions we used for the claims. We should have used another claim with no ingredient, just saying that the shampoo fortifies the hair, without giving any reason for that. Using that claim, we could compare its Purchase Intent to the others and conclude if it is worth to give any reason for the benefit or not.

Conclusion and Managerial Implications.

Every single word used in communication can change the way consumers react to it. Managers should bear this in mind when choosing claims for their products. And should also bear in mind that, different types of products (low or high involvement) require different types of communication.

In what concerns low-involvement products (such as shampoos), using technical terms in claims without an explanation of what the technical term is and how it works, does not influence Purchase Intent. But it can influence other important aspects as the capacity to grab consumers' attention, for example, so there are still many effects to examine related to the use of technical language.

It was also concluded that for the type of products studied, it is indifferent to present one or two reasons that explain the benefits provided by the product. Managers should be aware of this, so that they can use their communication in a more efficient way. If adding one more reason for the benefit, does not have any impact on Purchase Intent, brands could present just one reason and, this way, the claim would be shorter, quicker to read and, probably, easily recalled. Additionally, with a shorter claim, there remains more space in the package to give other information, or it is possible to give the same information but using bigger letters, to capture attention, for example.

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Appendix 1 – Experiment sheet 1

Imagine que pretende comprar um champô para fortificar o cabelo.

Assinale com um círculo o número que representa a probabilidade de vir a comprar este champô:

Muito pouco provável --- 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 --- Muito Provável

Idade:__

Sexo:___

Appendix 2 – Experiment sheet 2

Imagine que pretende comprar um champô para fortificar o cabelo.

Assinale com um círculo o número que representa a probabilidade de vir a comprar este champô:

Muito pouco provável --- 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 --- Muito Provável

Idade:__

Sexo:___

Appendix 3 – Experiment sheet 3

Imagine que pretende comprar um champô para fortificar o cabelo.

Assinale com um círculo o número que representa a probabilidade de vir a comprar este champô:

Muito pouco provável --- 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 --- Muito Provável

Idade:__

Sexo:___

Appendix 4 – Experiment sheet 4

Imagine que pretende comprar um champô para fortificar o cabelo.

Assinale com um círculo o número que representa a probabilidade de vir a comprar este champô:

Muito pouco provável --- 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 --- Muito Provável

Idade:__

Sexo:___

Appendix 5 – ANOVA table

Tests of Between-Subjects Effects

Dependent Variable: Purchase Intent

Source	Type II Sum of Squares	df	Mean Square	F	Sig.
Model	535.750[a]	4	133.938	68.540	.000
Type of Language	.007	1	.007	.004	.951
Number of Ingredients	.138	1	.138	.071	.791
Type of Language * Number of Ingredients	.837	1	.837	.428	.515
Error	117.250	60	1.954		
Total	653.000	64			

a. R Squared = .820 (Adjusted R Squared = .808)