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# The impact of meaningfulness and attractiveness of products' attributes on consumers' preferences[1]

**Abstract**: Consumer judgment is often based on incomplete or limited knowledge of the relevant attributes. To recognize the impact of meaningless attributes a study was conducted. Results of the study show that ambiguous information can be taken into consideration in the decision making process. The willingness to use meaningless information is to a higher degree determined by perceived attractiveness rather than by the level of comprehension. Among the three types of meaningless attributes' information (numerical, descriptive and name) the one called "name" was characterized by the highest level of attractiveness and the lowest level of comprehension. The opposite effect was observed with numerical information which was considered as the least attractive but the most comprehensive.
**Keywords**: meaningless attribute, product evaluation, preference construction.
**JEL codes**: M31, D12.

## 1. Introduction

A buyer faces a very difficult task when he takes a decision which concerns the choice of any product. He has to cope with incomplete and ambiguous information. Producers or sales personnel provide the consumer with much information. Unfortunately, it seems that this information does not make the choice much easier. Facing information that a car is certified by SAFETEC ® Security System (Opel), and that a face cream contains a substance called Zincodone A (Nivea), how is a costumer to act? Even an inexperienced buyer knows that security system is a crucial aspect of any car. The trouble is that he does not have to necessarily know what is especially attractive about this very system: attractiveness which is so significant

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that it was worth reserving the rights to its name. The case of face cream is similar. A purchaser may assume that Zincodone A might have something in common with zinc or vitamin A. Although both substances have a positive impact on human organism, an average buyer will have difficulties in guessing what effect it will have on his face.

## 2. Meaningless attributes

Being confronted with the attributes a part of which is meaningless, a purchaser has two possibilities to choose from. He may not take them into account, which seems reasonable from a normative point of view (e.g. Bohner, Wanke 2003, p. 120; Hutchinson, Alba 1991) or he may act otherwise and take them into consideration. Let us analyze the latter possibility.

There are a few reasons for which (partially) meaningless attributes are worth considering. They might be looked into just because the other features do not differentiate sufficiently the products which are being offered. The buyer may also think that such attributes have some value, since they are presented, let alone, promoted intensively. After all, one may also think wrongfully that he comprehends them.

The fact that a certain level of being unaware of information which refers to a product is a permanent and typical state of a purchaser, is very important as well. The comprehension of information need not be treated in the category of 'all or nothing.' Even a fully meaningless attribute may be interpreted somehow. For example, a purchaser might compare two products and choose the one which is characterized by a meaningless feature. In that case, the meaningless feature would be interpreted in 'quantitative' dimension (there is- there is not). On the other hand, even quite a high level of information comprehension, which relates to a product's attribute, does not automatically mean that one has a complete knowledge of all the consequences resulting from a certain level of attribute. Let us use a simple example. A buyer of a digital camera may know that a 512 Mb memory stick is of quite a good standard for this particular attribute. It is not the maximum level, but it surpasses the size of memory in the competing devices. On the other hand, the purchaser's knowledge may not be sufficient to precise how many pictures may be recorded in the camera's memory. What is more, even if he were capable of determining that a memory stick would save 300 pictures, would the statement be satisfactory for a purchaser or not? A purchaser may not be confident about his own preferences , which results in his inability to determine the attribute's attractiveness.

The problem concerning ambiguous product information is that the consumers are often unable to verify product quality before the purchase (Nelson 1970). In some circumstances, they cannot do this even after the purchase. In such a case the pro-

ducer may gain additional profit providing low quality product at high prices - "sweet lemons" (Parker 1995). Hsee and others (2007) distinguish three hypothetical situations as regards attribute meaningfulness (which they call attribute evaluability):

– When the consumer has no information except that of the attribute's monotonicity. In this case, when there is no other product to compare with, the attribute is extremely hard to evaluate. In a comparative judgment, when there is another product to judge against, evaluation of the attribute's attractiveness seems to be easier, especially in the situation when the product's attribute is in numerical form.
– When the consumer is aware of the neutral reference point of the feature. In this case, attribute evaluation depends on whether attribute value lies on the positive or negative side of the neutral point of reference.
– When the consumer knows the best and the worst possible value of the attribute. In this scenario, the attribute is rather simple to evaluate in joint and separate valuation.

Meaningless attributes being taken into consideration, an intriguing question begins to emerge: whether they have a positive or negative effect on the product evaluation and choice. The results of empirical researches are ambiguous. One stream of research indicates that the effect of meaningless attributes may be positive, whereas the other stream shows that it may be negative, yet another one proves that the valence of the influence depends on additional moderating factors.

A positive influence of meaningless attributes on evaluation was observed by Carpenter, Glazer and Nakamoto (1994). Their study established a certain research canon repeated in the subsequent experiments.

In Carpenter and others (1994) experiment subjects evaluated winter jackets described by four attributes. One of them (down fill type) was meaningless in nature. The jacket's down fill could be 'alpine class fill' type, that is consisting of goose down and it could be 'regular' type, in which a down fill was a mixture of goose and duck down. The subjects' preferences were measured by using a scale ranging from 0 to 10 in relation to eight variants of a product, one of which consisted of a meaningless feature. The findings clearly show that the product was estimated to be of better value if it contained an irrelevant feature, than if it did not. The product's evaluation rose from 3,1 (for a group without a meaningless feature) to 9,1 (for a group with a meaningless feature).

Let us notice that the features (goose and duck down fill) used in Carpenter and others (1994) research had an ambiguous interpretation. The purchasers may have treated that information as crucial and positive (or at least not negative). Yet, what would happen if the purchasers were aware that the quality of a product is not related to the type of down fill. One might suspect that revealing a real character of the attribute should reduce its role in evaluation. However, it turned out that this common-sense view does not quite correspond with the facts. The respondents were

presented with information that the down fill quality, as far as age is concerned, is of no significance, but the species of a bird from which the down comes. It did not have a significant influence on reducing the force of that feature. It can be noticed by the lack of downgrade in the value of the whole product. On a preference scale, after revealing irrelevant information, the product reached 8,4 points. The difference between preferences in a group of revealed and unrevealed meaningless features was statistically non significant (Carpenter and others 1994). This effect, more than the influence of meaningless attributes themselves, was a fundamental achievement of the research, which leads to a perverse conclusion that thanks to meaningless attributes it is possible to achieve meaningful differentiation.

The influence of meaningless attributes does not always have to be positive. Osselaer, Alba, and Manchanda (2004) present experimental evidence that irrelevant attributes (e.g. loyalty-program points) can influence choice when other information (e.g. price) is available.

Meyvis and Janiszewski's (2002) research suggests that when irrelevant[2] information is added to prior positively evaluated product attributes, the consumer's belief that the product will deliver desired benefits is weakened.

Another example of negative effect of attribute ambiguity comes from Thompson Hamilton, and Rust (2005). They noticed that adding a new product feature in the case of high-complexity[3] products could sometimes harm product evaluation. Basing on learning-cost inference they showed that the expected cost of learning would be greater than benefits provided by the novel attribute, thus resulting in low evaluation of the product.

It has been shown that the impact of meaningless attributes on product evaluation depends on other factors. Brand equity is one of them. In the case of low equity brands, revealing the true nature of the attribute may confirm the opinion about its weakness and become a reason for rejecting it. In the case of high equity brands the situation may be different. Revealing the meaningless attribute (which they call trivial attribute) may be counterbalanced by many positive associations connected with the brand. Since trivial attribute is not so much negative but unimportant, it may redirect the attention to the other attributes, rather than weaken the evaluation of a brand (Broniarczyk and Gershoff 2003). For example, when in one of the study respondents were requested to choose a brand again, having been previously shown the character of a trivial attribute, a number of individuals repeating a choice of the same brand varied, depending on the brand equity. In the case of a strong brand 94,1% of respondents chose it one more time, in the case of a low equity brand -much less, only 53,8%.

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[2] It is necessary to notice that the irrelevant information can be either meaningless or meaningful in nature

[3] (Meyvis, Janiszewski 2002). There is a question, are computers really high-complexity products?

Brown and Carpenter (2000) propose another explanation of the valuation of trivial attributes. They suggest that a trivial attribute may have either positive or negative value, depending on whether such a judgment provides the more obvious reason for preferring a brand over its competitors.

In the research presented above the meaningless attribute appeared next to the other features of a product. Even if it had an influence on evaluation or choice of a product, the decision-makers might not have been fully aware of it. One can ask how purchasers would evaluate meaningless information, if it were the only information to be evaluated. Will the lack of meaning undermine the tendency to use it? If it were so, it would mean that decision-makers should declare very low willingness-to-use of the meaningless attributes. However, considering the results of previous researches, it is more likely that the meaningless attributes should not fully determine the willingness to use them. Namely, that is to say a willingness level to use information should exceed the level of its comprehension. The aim of the study was to explore this topic. The formally made hypothesis is as follows:

*H1: Willingness-to-use the meaningless attribute information is higher than the evaluation of comprehension of that information.*

It was previously mentioned that the results of disclosing information inadequacy are dependent on brand equity. The degree of precision of information could be found as another factor which determines the impact of meaningless attributes. Explicit attributes can become less powerful than implicit attributes after they are both disclosed. It seems that such unclear information was the definition of 'alpine style' used in the research of Carpenter and colleagues. Thanks to it, disclosure of the truth did not cause the actual detriment to a product evaluation. That current thinking confirms the research of Broniarczyk and Gershoff (1997). They used the same products as Carpenter, Glazer and Nakamoto (1994). They compared the evaluation on the scale from 0 to 100, which the products obtained, when the attribute was defined in the way which was more semantically attractive ('alpine style') and in the way which was less semantically attractive ('goose down'). The products scored 53.5 (for the product defined by a more attractive attribute) and 34.5 (for the product defined by a less attractive attribute). The results show that semantic attractiveness is much more influential and it could be the basic or the only source of positive product evaluation. A subsequent hypothesis that the dependence on semantically attractive information and the declared willingness-to-use it in a decision-making process can be shaped on the basis of the above conclusion:

*H2 :The more attractive an attribute seems to be, the more consumers are inclined to use it, regardless of its level of comprehension.*

A research was carried out in order to verify the hypothesis put forward here.

# 3. Study

## *3.1. Participants and materials used in the research*

154 students of the Poznań University of Economics took part in the research. More than 20 questionnaires were removed because of missing data. Ultimately, 131 questionnaires were taken into consideration. Nearly 65% of the respondents were women . Age of respondents ranged from 22 to 49, with the average of 26. The respondents filled in questionnaires on a voluntary basis.

The questionnaire used in the research consisted of three parts. The first part asked about the level of comprehension of the mentioned products' attributes; the second asked about the willingness of using them in a decision-making process; the third part asked about their perceived attractiveness. In each part the same seven features of the products were investigated (the features in individual parts were presented in different order to avoid copying answers). It was possible to assign the investigated meaningless features to one of the three categories. The first category included attributes of descriptive character (e.g. two-way structure of a loudspeaker) another of numerical character ( brightness of the LCD monitor is 300 cd/$m^2$), the third one referred to the character of specific names (e.g. equipped with Map Share®).

The replies were given according to a seven-point scale. In individual parts, number one meant respectively: I completely don't understand, I won't use at the moment of choice , an unattractive feature of a product, whereas number seven meant: I fully understand, I will use it at the moment of choice , a very attractive attribute.

## *3.2. Results of the study*

The analysis was carried out in the aggregated form, without the division into the kinds of attributes and in the disaggregated form for individual types of information about attributes of products.

### *3.2.1. The role of comprehension in shaping consumers' evaluations*

The aggregated analysis began with the creation of groups of indices. They consisted of averages for 7 features. Three indexes were created. The first named in short 'comprehension' (Crombach $\alpha = 0.67$), concerned the perceived level of comprehending the presented information about attributes, the second called 'choice' ($\alpha = 0.7$) referred to the willingness to make a decision based on the information given, and the third one named 'attractiveness' ($\alpha = 0.77$) was bound with the perceived attractiveness of attributes of the product mentioned.

The average level of comprehension of information concerning an attribute was developed on the assumed level, namely the information given to the respondents

seemed rather incomprehensible $M_{comprehension}$=3.36. This number was significantly below the midpoint of the scale [t(1,130)=-6.659, p<0.001]. Attributes seemed more incomprehensible to women ($M_{women}$=3.16) than men ($M_{men}$=3.72; $M_{men}$ >$M_{women}$; Mann-Whitney U, p<0.05). This could be partly caused by the fact of using in the research the technically advanced products directed more to men (or stereotypically identified with men) than to women.

The age itself did not prove to have an essential influence on the level of comprehending the information, but it is necessary to remember that the research was carried out in the group of students, namely, the group of quite homogenous character.

According to the assumed hypothesis, one should expect that the perceived level of comprehension should not fully be interpreted as the willingness to use the information in the process of choice. It means that the index of "choice" should have a higher value than the index of "comprehension". And such a situation took place in the research carried out. The index of the willingness-to-use surpassed the one associated with comprehension [$M_{comprehension}$ <$M_{choice}$ 3.36<3.88, t(130)= - 4.718, p<0.001]. Correlation between the index of comprehension and the index of willingness to use was statistically significant but it was at a low level and it equaled 0.326.

For all the respondents, as well as within the groups distinguished on the criterion of sex, the declared willingness to use the information in the process of choice was higher than the perceived level of comprehending it. It is presented in Table 1.

**Table 1. The level of comprehending the information vs the tendency to use it in the process of choice for both genders**

| | Women | Men |
|---|---|---|
| Comprehension | 3.16 | 3.73 |
| Willingness-to-use | 3.75 | 4.07 |

Source: Own study on the basis of the research.

Women displayed a lower level of perceived comprehension of information concerning attributes than men, however it did not change their attitude to using this information, the value of index of "comprehension" ($M_{comprehension}$= 3.16) was smaller than the value of index "choice" [$M_{choice}$= 3.75; $M_{comprehension}$ < $M_{choice}$; t(84)=-4.076 p<0.001]. In the case of men the situation was similar. Both values of the variables i.e. "comprehension" and "choice" were on a higher level in men than in women, which does not change the fact that the level of "comprehension" ($M_{comprehension}$=3.72) was lower than the declared willingness to use the information in the situation of choice [$M_{choice}$=4.07; $M_{comprehension}$ < $M_{choice}$; t(37)=-1.91; p<0.1)].

The conclusion which can be drawn from this part of the research suggests that incomprehension of information related to ambiguous attributes does not prevent

decision-makers from using them in a decision-making process, which supports the first hypothesis.

In the disaggregated analysis three indices were created for every part. These indices corresponded to three kinds of meaningless attributes. The first one concerned attributes at which numerical values appeared. In short this type was named as 'numerical'. The second one concerned attributes whose essence is being presented in a descriptive way. In short, this type was named 'descriptive'. The third kind of attributes was bound with a specific name, sometimes reserved by law. This type of attributes was called 'name'. The level of comprehending individual types of attributes was different which is shown in Figure 1.

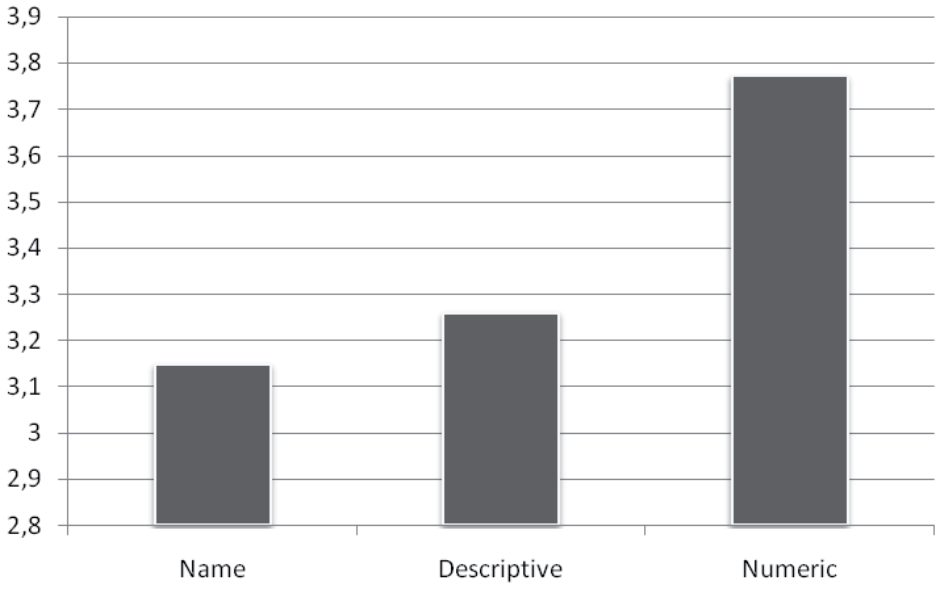


**Figure 1. Comprehension of different types of information**
Source: Own study on the basis of the research

The attributes containing numerical data seemed to be most understandable. They seemed more understandable to respondents than the ones called "name" ($M_{numeric} > M_{name}$; $t(130) = -4.67$, $p < 0.001$) and than "descriptive" attributes ($M_{numeric} > M_{descriptive}$; $t(130) = 3.86$ $p < 0.001$). Between descriptive attributes and names however there was no significant difference ($|t| < 1$).

Significant differences also appeared in the level of comprehending individual types of attributes by women and men. Generally, as it was mentioned earlier, men demonstrated a better perceived comprehension of attributes. It concerned 'name' and 'descriptive' attributes in particular. Attributes, which were numerical in nature, were understood in the same way by both men and women. These relations are shown in Table 2.

**Table 2. Comprehending different types of information depending on gender**

| | Type of attribute | | |
|---|---|---|---|
| | Name | Descriptive | Numerical |
| Women | 2.79 | 3.03 | 3.84 |
| Men | 3.87 | 3.70 | 3.54 |

S o u r c e : Own study on the basis of the research.

As regards attributes of "name" men declared comprehension to a higher degree (and, more specifically smaller incomprehension) ($M_{men}>M_{women}$; Mann-Whitney U, $p<0.001$). By analogy the situation looked similar in the case of 'descriptive' attributes ($M_{men}>M_{women}$ ; Mann-Whitney U, $p<0.05$).

A comparison between information and declared willingness for making a decision within the framework of individual classes of attributes, is an interesting observation. It is possible to observe the greatest declared willingness-to-use for attributes such as 'name' , next 'numerical' and those including a description. This does not coincide with the level of understanding them which is illustrated by Figure 2.

Numerical information (comprehensible to the highest degree) was not characterized by the greatest willingness-to-use it when making a choice. The level of desire to use the numerical information did not differ from the level of comprehending it ($|t|<1$). The respondents were willing to use information in the form of

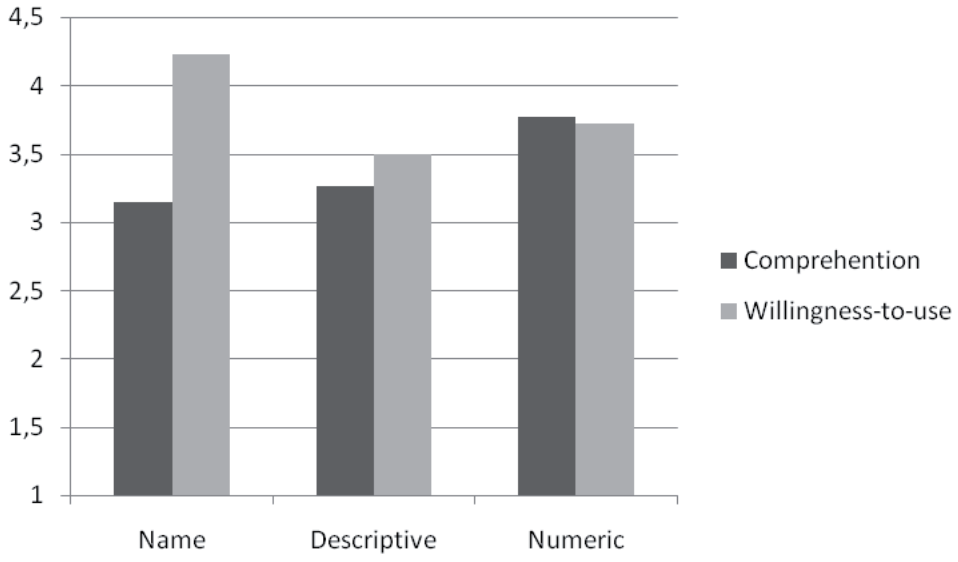


**Figure 2. Comprehension of information vs declared desire for using it in decision-making process**

Source: Own study on the basis of the research.

names most frequently (that is at least comprehensible information). The majority concerned both descriptive [$M_{name}>M_{descriptive}$; $t(130)=5.5$; $p<0.001$], as well as numerical attributes [$M_{name}>M_{numeric}$; $t(130)=4.95$; $p<0.001$]. The level of declared desire to use attributes of specific names definitely exceeded the level of comprehending them, $t(130)=-7{,}28$; $p<0.001$. In the case of descriptive attributes the situation was analogous, but the declared desire to use the information marginally only exceeded comprehension of this information, $t(130)=-1.94$; $p<0.1$. The difference is most remarkable between the level of comprehending "names" and the tendency to use them in the process of making a choice of the product. Generally, although such attributes as name are perceived as the least comprehensible, the tendency to use them is the highest. What is very important, it surpassed number 4 ($t(130)=1.88$; $p<0.1$), on the scale indicating not only a relatively rather low level of reluctance to apply but already a wish to use this type of information.

The analysis carried out with a division into classes of incomprehensible attributes shows that the level of comprehending the information about attributes of the product does not determine using it in the decision-making process, and that individual classes of attributes to a different extent are taken into consideration in decision-making processes.

*3.2.2 The role of an attribute's attractiveness*

The second hypothesis is connected with the influence of perceived attractiveness of the attribute on the willingness to use it in a decision-making process. It finds its special grounds in the fact that the level of comprehending information about a product's attributes not fully, not to say to a small extent, determines a tendency to use this information in the process of choice. Since it is not possible to fully explain the willingness-to-use information and the level of comprehending it, then one should seek a different possibility. It is pointed out in the research of Broniarczyk and Gershoff (1997) described earlier, where product evaluation was affected by the attribute's attractiveness.

The respondents perceived meaningless attributes to be moderately attractive ($M_{attractiveness}=4.2$). The level of perceived attractiveness exceeded that of the midpoint (level "4" ), $t(130)=2.16$; $p<0.05$. Both sexes perceived attributes in the same manner.

It is a crucial issue whether the perceived attribute attractiveness can affect the willingness to use it in a decision-making process. A lot of symptoms show that this can happen. Attractiveness was not strongly correlated with the comprehension (0.379). However, correlation between the index of choice and the index of attractiveness was at a high level (0.606). Variables correlated with each other cannot be applied in one regression function. However, it is possible to compare standardized Beta coefficient. The comparison of Beta coefficient shows a much closer (nearly twice) relationship between the index of choice and the index of attractive-

ness (Beta=0.61) than the one between the index of choice and the index of comprehension (Beta=0.33).

Perceived attractiveness of different types of attributes differs significantly. Attributes of the specific 'name' ($M_{name}$=4.45) were perceived as more attractive than the two remaining groups of attributes i.e. 'numerical' attributes ($M_{numeric}$=3.88; $M_{name} > M_{numeric}$ t(130)=5.87; p<0.001) and 'descriptive' attributes ($M_{descriptive}$=4.14; $M_{name} > M_{descriptive}$ t(130)=3.07; p<0.01). The'descriptive' attributes however, were regarded as more attractive than the 'numerical' attributes [t(130)=-2.63; p<0.01].

Attractiveness presented itself in a different way than comprehension of attributes.

Determining the role of attractiveness and comprehension within the framework of individual types of attributes, it is possible to use Beta coefficient again. The values of the coefficients are depicted in Fig. 3.

Directional parameters of the regression function are higher in the case of 'descriptive' attributes and 'name' and they move close to each other in the case of 'numerical' attributes. There is a distinct difference, especially in the case of 'name' attributes. In the situation of 'choice' the willingness-to-use is determined largely by attraction of the attribute. After all, it is possible to state that attractiveness decides about considering the information in a decision-making process to at least equal, and sometimes higher, degree than the level of comprehension.

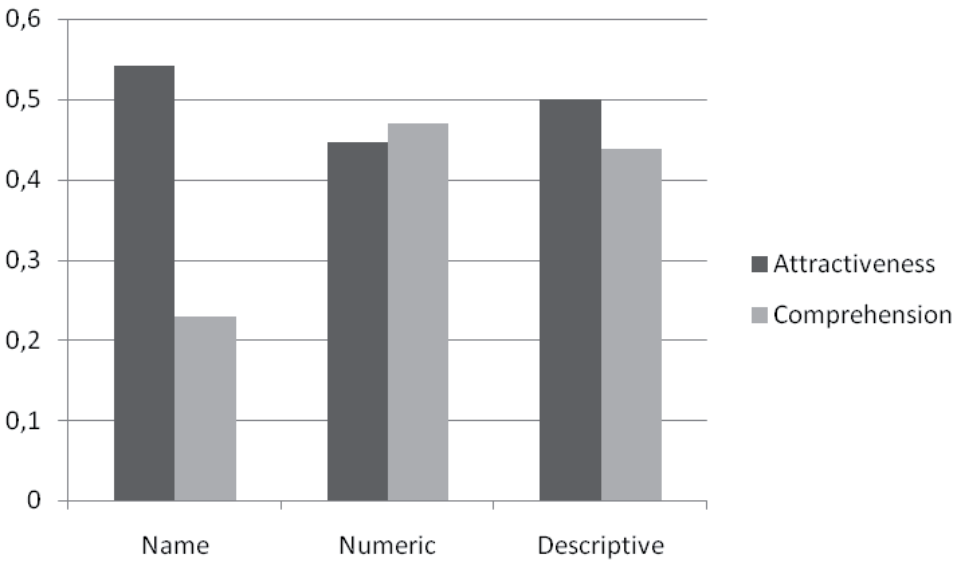


**Figure 3. Standardized Beta coefficient of attractiveness and comprehension variables of the regression function for choice**
Source: Own study on the basis of the research

It is hard to explain consumers' preferences exclusively by the perceived attractiveness of an attribute, nevertheless it is a fact that attractiveness can have a significant influence on decisions taken by purchasers. It is necessary, however, to keep in mind that the described relations concern unrepresentative sample of the population.

The research presented above suggests that the willingness-to-use of meaningless information is to a higher degree influenced by attributes of attractiveness than by those of comprehension. There are three types of meaningless attributes. The one called "name" was characterized by the highest level of attractiveness and the lowest level of comprehension. The opposite effect was observed with numerical information which was considered as the least attractive but the most comprehensive.

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