MEASURING PERCEPTION FOR HAPTIC BRANDING

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ABSTRACT
Addressing haptic perception in branding strategies for flooring could well be a new tactic in setting a competitive edge. Wood surfaces and especially wood flooring offer a wide range of possible product variations. In a blindfolded test the perceptional abilities of hands and bare feet concerning the temperature, roughness and hardness of floorings were tested. Concerning these three variables the perception is principally similar, also between women and men. The floor with a naturally oiled surface was preferred most, being warm, fairly rough and fairly smooth. The applied test design can be used to determine the haptic perception of wooden surfaces. The results of the test can be applied in further product developments to ascertain a unique perception which can contribute to haptic branding strategies.

Keywords: haptic perception, haptic branding, wood surfaces

1 RELEVANCE OF THE TOPIC

Brand parity is one of the major problems of present brands, which means that they become increasingly similar and differences in quality are almost impossible to identify. Above all oversaturated markets and international competition require brands with a striking brand image to become anchored in the minds of consumers. Today, companies communicate their brand message to a large extent to the optic and acoustic sense. Unfortunately they waste large potential on popularising their brands and positioning them in a distinctive and unique way. In order to create a strong brand image, it is not enough to transmit only visual and acoustic stimuli: all five senses should be addressed.
Haptics contain a high potential within multi-sensory branding strategies, as the sense of sight is the most important sense followed by the sense of touch. Hence, it is indispensable to impart theoretical and practical knowledge of haptic branding to prospective designers.

2 DIDACTIC ASPECTS OF THE TOPIC

The reliable measurement of sensual perception is the basis for a profound understanding of consumer perception. On developing the necessary test design, constructing the testing instruments and using them in the real life market research process, students can gain highly relevant knowledge and experiences within their studies.

3 HAPTIC PERCEPTION

The word “haptic” comes from a Greek term meaning “able to lay hold of” and is based on combined sensory input from the skin, muscles, tendons, joints and mucosae exposed to the environment [1]. Haptic perception is usually classified to tactile and kinesthetic perception. Tactile perception refers to cutaneous stimulation and therefore perceives information about e.g. the surface, shape and size of an object whereas kinesthetic perception recognizes movement, position or physical strain. Furthermore there is a distinction between active and passive touch. The former applies to a controlled exploration of an object through the perceiver himself by varing the individual motoric activity (i.e. running ones fingers over a surface). This is distinguished from passive touch in which stimulation is caused by movement of the external object or surface against or relative to a stationary tactual receptor surface. Although inputs could arise passively, as when an object is pressed against the skin, more commonly they result from active, purposeful touch [1].

Meyer [2] further outlines that haptic perception is also affected by other senses —a phenomenon named synesthesia. Hence, the stimulation of one sense activates other senses as well and leads to compounding effects of several sensations. A dark-coloured object is for example experienced more heavily than a bright object, whereas shiny surfaces are described as cool and fresh.

3.1 Dimensions of Haptic Perception

It is important to understand which information about the explored object is processed besides the knowledge of the physiological functionality of the sense of touch.

Meyer [2] conducted a study to discover the dimensions of haptic perception and came to the following classification of six dimensions: shape, texture, consistency, temperature, weight and volume. According to Meyer, when blindfolded tests are conducted, texture, shape and consistency dominate the other three dimensions, and moreover, texture and consistency are the top dimensions concerning their impact on the emotions of consumers.

3.2 Why do we touch?

During the buying process individuals have a certain need to touch products, a process that is influenced by an instrumental and an autotelic factor. Peck and Childers [3] point out that the instrumental dimension reflects an outcome-directed touch with a salient purchase goal. The involved consumer has the intention of searching for information and judges the relevancy of the product through touch. In contrast, the autotelic factor, according to Holbrook and Hirschman, relates to touch as an end in and of itself. Autotelic touch corresponds to the sensory aspects of product touch, with no purchase goal necessarily salient, but with spontaneous investigation of multi-sensory, psychophysical product relationships [4]. Thereby, the involved consumer normally represents a variety seeker with hedonic-oriented intentions, who perceives the exploration as a less effort-driven and almost automatic process that is not consciously controlled [5]. This leads to the conclusion that autotelic, but not instrumental touch, is positively related to impulse-buying behaviour.

3.3 Significance of Haptics

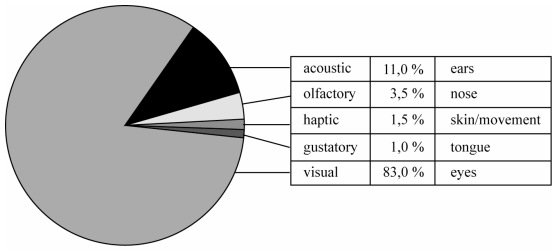

Figure 1. Current allocation of sensations

Figure 1 [6] shows the allocation of sensory perceptions. It is conspicuous that there is a information overload for the sense of sight whereas the sense of touch actually provides a large capacity for information processing. Using this capacity it is possible to transfer information to the sense of touch and therefore, to compensate for the heavier weighting on other senses, making the process of perception more complex and intensive. Moreover, haptics are strongly related to the subconscious. Implicit memories are acquired through unconscious learning (i.e. classical conditioning) and are always a result of interaction with an object, as motor activities are conducive to the performance of memory. According to Wippich and Wagner [7], our hands obviously gather more information for our long-term memory. This implies that if a consumer obtains an opportunity to touch a product or to receive haptic information about a brand, he or she will better remember and recognize the brand and the brand's chance of being anchored in his or her mind rises dramatically.

3.4 Dominance of Senses

Several discussions deal with the differences of our visual and haptic system. Klatzky, Lederman and Matula [8] ascertain that shape and size are rather more evaluated with the eyes than with hands, due to the fact that information about shape and size is better perceived visually than haptically. Concerning texture, the performance of the visual system is comparable to the haptic system, though only if the contrast of the explored surface is strong and observable for the eyes [2]. As Klatzky and Lederman [9] discovered, the sense of touch gathers information about the dimensions of temperature, weight and consistency.

In general our sense of sight is faster and more accurate during the process of perception and in the case of controversial information, one trusts the eyes more than the hands. One exception is the exploration of surface texture, where the sense of touch is trusted more, although the sense of sight processes textural information quicker [2].

Nevertheless, as mentioned before, additional touching of products enhances the level of recognition drastically and facilitates the fortification of a distinct brand image.

4 MEASURING THE HAPTIC PERCEPTION OF WOOD FLOORING

As wood is a natural material with numerous variations on its surface, it is an ideal product which can be applied in sensory marketing in order to improve the appeal of the products. The premise, therefore, is knowledge concerning the method and degree of perception.

Different industries may have an interest in such results depending on the method of wood processing. The wood processing industry, the furniture industry, the lacquer industry or the laminate industry could adopt their products according to preferences of the customers.

The haptic perception of wood surfaces has not been researched up to now, therefore a survey with the following objectives was carried out:
1. Do humans perceive different surfaces consistently using their tactile senses and can temperature, hardness and roughness be measured?
If the customers were able to describe these attributes consistently, then the surface of the flooring products could be adapted accordingly. If certain surfaces were predominantly preferred, then the market could be segmented more exactly with this information, and products could be upgraded to meet customer needs.

2. Is the perception of surfaces as strong when people touch them with their hands and with their feet or are there differences?
The answer to this question could change the method of product presentation at the point-of-sale, depending on whether consumers express different preferences when touching floors with their hands or with their feet.

3. Is there a difference in such perceptions between genders?
If such a difference exists, the sales strategies could be adapted accordingly.

4. Is there a difference in preferences for various types of flooring, if they are only perceived in a tactile way i.e.: when optical impressions are eliminated?

5 THE TEST DESIGN

To be able to feel differences in flooring surfaces, it is necessary that the types of flooring are not too similar. For this reason the following wooden flooring was selected:

Floor A) Brushed multilayer parquet flooring with oxidative cured oil surface
Floor B) Multilayer parquet flooring with lacquer surface
Floor C) Smooth laminate flooring without decor stamping

Figure 2. Test Design for the Foot Test

To test the consistency of the answers, one product (Floor C) was used twice as a reference. Subjects who were unable to assess this flooring within a deviation of one

point on the scale, or answered once that the flooring felt pleasant and then said the opposite the second time they were questioned, were filtered out of the sample.
The subjects were asked about the extent to which the perceived surfaces were warm or cold, smooth or rough and hard or soft, each on a five-point scale. For example, concerning the temperature 1 = warm, 2 = more warm than cold, 3 = more cold than warm, 4 = cold and 5= uncertain.
Subjects were then asked on a yes/no-scale if the specific flooring felt pleasant.
After assessing the four samples, the candidates were asked which flooring was most pleasant.

6 RESULTS AND APPLICATION

For the comparison of the hand and feet test, only 95 persons were not filtered out according to the criteria defined above. This shows that not all test persons were able to evaluate surfaces consistently with their hands and feet. The results of the hand test and the feet test are very similar, except for the evaluations of the smoothness of the oiled parquet flooring. The flooring with the natural surface is evaluated as rougher when touched by hand. It is assumed that the small differences are due to the higher tactile sensitivity of the hand compared to the feet.

Two features were analysed in order to ascertain if they correlated (e.g. if hardness and smoothness were synonyms for the same category of perception). As the correlation was very low, no feature can be described by another. Based on this knowledge, it is assumed that every feature could relate to different haptic impressions of the flooring.

The “hand” perception of the surface (137 test persons fulfilled the criteria) was analysed in the same manner as for the feet test. No significant difference in perception could be determined concerning the difference in perception between the genders. The floor preferences chosen in the blindfolded test demonstrate that there is a stark difference between consumer wishes and consumer purchase behaviour

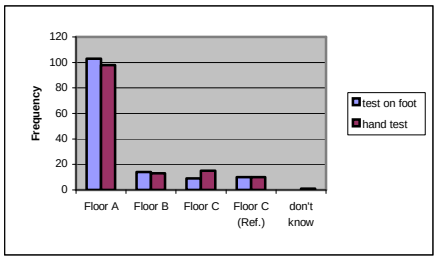

Figure 3. Flooring preferences

It can be seen that the majority of the people (76% in the bare feet test, 72% in the hand test) preferred the flooring with the natural surface. In summary, it is clear that the combination “warm”-“rough”-“soft” seems to be preferred most by the test persons. In the year 2004, laminate flooring had a market share in Europe of 13.5% and wood flooring had 5.3% [10]. Current statistical data does not include the category of oiled surface flooring, but the European Federation of the Parquet Industry assumes it to be less than 5% within the parquet flooring sector [11]. The results of this study do not

tally with the market situation. The most popular floor in our survey has by far the lowest market share of all three products assessed.

Consumers are barely able to realise differences amongst the laminate flooring brands currently available. Producers of flooring try to establish marketing strategies with arguments that stress the consumers' feelings of wood; although, they are not aware of what the customers feel when perceiving their products of the producers. The development of surfaces which fulfil the wishes of the customers could offer the change to deliver contributions to haptic branding. The communication of such results could additionally improve this awareness for the producers of laminate floorings but also for the producers of flooring with natural surface.

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