Sensory Stimuli in Print Advertisement – Analyzing the Effects on Selected Performance Indicators

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ABSTRACT

The multisensory marketing approach is often associated with the creation of memorable consumer experiences. In contrast, the broad field of advertisement is increasingly struggling to appeal effectively to the consumer. Thus, the implementation of multisensory aspects in traditional advertisement activities might be promising. In the given context of the print advertisement, the empirical results of this research provide evidence that the application of multisensory stimuli is an important success factor in creating experiences and influencing the perception of product design. As there is great potential in the haptic and olfactory senses, marketing managers can appeal to consumers by using, for example, singular scents or special materials. However, to address consumers effectively, marketing managers must be aware of both the explicit and implicit effects when implementing different sensory stimuli to ensure that there is no conflict between the perception levels.

1. Introduction

Today, it is becoming increasingly difficult for marketing practitioners to appeal effectively to the consumer. The rapidly growing number of products with the same characteristics and the unsatisfying effects of conventional marketing techniques have led to a demand for more innovative approaches (Lee & Lee, 2004; McNally, Akdeniz & Calantone, 2011). Looking for new ways to differentiate products and brands from competitors, sensory marketing has recently gained growing popularity with both marketing researchers and managers (Krishna & Schwarz, 2014). In addition, a multisensory marketing approach is increasingly shifting into focus to create memorable experiences for the consumer (Lindstrom, 2005). Accordingly, several studies have already investigated the utility of sensory stimuli in terms of a specific consumer approach, particularly in the context of advertisement (Krishna, Cian, & Sokolova, 2016). For instance, evidence is provided for the impact of the salience of touch (e.g., Peck & Childers, 2006), store scent (e.g., Spangenberg, Sprott, Grohmann, & Tracy, 2006), and background music (e.g., Milliman, 1986) on consumer behavior. As a result, some companies have already transferred these insights to traditional print advertisements (Hultén, 2009). It is widely recognized that print advertisement is still a useful and relevant communication medium in today’s world, more than ever before, because other advertisement formats, such as TV spots and online ads, are often questioned with regard to their impact on the consumer (Liu & Shrum, 2013; Yoon & Kim, 2001). Therefore, the implementation of, for example, haptic elements, scented stripes, and music-related QR codes to print ads seems to correlate with the aforementioned findings and underlines the broad innovation potential of print advertisement in terms of a multisensory marketing approach. Although recent studies have helped to provide a better understanding of how specific sensory cues affect consumer perception, there is still much to learn about the causal relationships between sensory perception and brand-related outcomes (e.g., Spence, 2012; Streicher & Estes, 2016). Hence, as sensory cues may be perceived on an explicit or implicit level, it is important to focus on both types of consciousness to assess specific relationships with the product- and brand-related key factors (Krishna, 2012). Moreover, there is still a great need to investigate the aspects underlying the relationship between sensory perception and consumer behavior (Underwood & Klein, 2002).

As marketing literature has detected product design and brand experience as relevant factors determining consumer perception and behavior (e.g., Brakus, Schmitt, & Zhang, 2014; Moon, Park, & Kim, 2015), this paper focuses on both constructs to examine their potential mediating role. As deduced from these remarks, the objective of the present study is to close the outlined gaps in the context of potential effects of sensory cues in print advertisement.

The paper is organized as follows: The next chapter provides the theoretical background, including the conceptual framework, outlines the relevant constructs, and deduces the research hypotheses. In the subsequent section, the methodology of the empirical study is described. Next, partial least squares structural equation modeling yields the findings. Finally, the paper provides a discussion and conclusions with an outlook toward future research opportunities.
2. Theoretical Background and Hypothesis Development

The conceptual framework is displayed in Figure 1. In the following section, the constructs and relationships of explicit and implicit sensory perception, product design, brand experience, brand perception, and consumer behavior are explained in detail.

Sensory perception represents the initial driver of the conceptual model. In this paper, sensory perception is considered the consumer’s evaluation of an object (e.g., product or brand) in terms of its appeal to the senses (i.e., visual, acoustic, haptic, olfactory, and gustatory). According to the well-established two-system approach of cognitive psychology (e.g., Kahneman, 2003; Neys, 2006; Sloman, 2002; Stanovich & West, 2002), consumers can form these evaluations in their subconscious (implicit) or conscious (explicit) mind. The implicit system (System 1) generally works quickly, automatically, associatively, and effortlessly. In contrast, the explicit system (System 2) operates slowly, deliberately, sequentially, and with more effort (Kahneman, 2003; Sloman, 2002). Furthermore, consumer choice is always based on both conscious and unconscious processes; the influence of the nonconscious is particularly central. People perceive numerous stimuli in their environment unconsciously (Fitzsimons, Hutchinson, & Williams, 2002), whether it be music in a commercial, the scent in a store or the way a product feels. Consumers are perpetually confronted with product stimuli, of which only a fraction is actually noticed on an explicit level. People can concentrate on selected stimuli only, and their attentional resources are restricted (Smith & DeCoster, 2000).

Although most product information is thus not accessible to the consumers’ conscious mind, it can absolutely influence decision processes (Friesen, Wänke, & Plessner, 2006). In fact, due to the spontaneous functioning of System 1 and the comparatively very limited capacity of System 2, the latter often adopts the intuitive suggestions of the former (Kahneman, 2011). Positive implicit memory content can, therefore, lead to an equally positive explicit perception (and vice versa) in terms of a compensation of missing conscious information or a justification of the spontaneous suggestion. Thus,

H1: Implicit sensory perception has a positive effect on explicit sensory perception.

In addition to environmental factors (e.g., atmospherics) or individual differences (e.g., gender), a product’s intrinsic factors (e.g., color or taste) represent core elements of a perceived product design and impact consumer perception (Krishna, Cian, & Aydınoğlu, 2017; Piqueras-Fiszman & Spence, 2015; Zampini, Wantling, Phillips, & Spence, 2008). In fact, there are three dimensions of product design: aesthetics, functionality, and symbolism (Homburg, Schwemmle, & Kuehnl, 2015). Aesthetics indicate the level of the perceived beauty of an object (Desmet & Hekkert, 2007), functionality describes the assumed utility of the product based on design properties (Bloch, 2011), and symbolism explains the degree of identification and meaning a consumer associates with a certain design (Kumar & Noble, 2016). Empirical work in this area suggests relationships between sensory perception and all dimensions of product design (e.g., Aslam, 2006; Hoegg & Alba, 2011; Peak & Childers, 2003; Veryzer & Hutchinson, 1998). Accordingly, the perception of product design can potentially be influenced by both explicit and implicit sensory perception (Veryzer, 1999). Thus, it is influenced by all sensory cues sent out from the product itself (Schifferstein & Desmet, 2008). Therefore, it is assumed that

H2a: Implicit sensory perception has a positive effect on product design.

H2b: Explicit sensory perception has a positive effect on product design.

Whether processed on an implicit or explicit level, the consumer’s sensory perception of a product or brand may contribute to a memorable experience (Hirschen, 1984; Hultén, 2011). According to Brakus, Schmitt, and Zaranontello (2009, 53), the term brand experience can be defined as “subjective, internal consumer responses (sensations, feelings, and cognition) and behavioral responses evoked by brand-related stimuli that are part of a brand’s design and identity, packaging, communications, and environments”. Companies have various opportunities to build outstanding experiences by appealing to the five senses, for example, through striking pictures that make consumers think, pleasant scents that evoke positive emotions, or exciting music that creates an arousing atmosphere. Moreover, the separate stimuli that a company uses to stimulate the consumer merge into an overall impression (Hultén, 2011; Lindstrom, 2005). For this reason, and to establish a strong holistic experience, sensory marketing must use sensory stimuli coherently and in a mutually reinforcing way to transmit a consistent brand promise (Guzman & Iglesias, 2012). This phenomenon is known as the superadditive effects of sensory stimuli (Lwin, Morr, & Krishna, 2010).

However, brands must also prevent sensory overload. Hence, the amount, content and intensity of sensory stimuli play a major role in creating an ideal brand experience (Krishna, 2012). Thus, we propose

H3a: Explicit sensory perception has a positive effect on product design.

H3b: Explicit sensory perception has a positive effect on the brand experience.

To embed brands deeply in a consumer’s mind, the concept of brand experiences has become an important component in marketing communication. Superior experiences are thus created through offering brand-related stimuli as part of, for example, a brand’s design, packaging or advertisement, at any time during the encounter (Cliffe & Motion, 2005; Klaus & Maklan, 2007). Research in the field of experience marketing has already shown that brand experiences are highly subjective, vary in strength, intensity, and valence, and engage the customers at different levels (Brakus et al., 2009; Gentile, Spiller, & Noci, 2007; Iglesias, Singh, & Batista-Foguet, 2011; Pine & Gilmore, 1999; Schmitt, 1999). Therefore, we divide the construct into four dimensions: affective, behavioral, cognitive, and sensory (Brakus et al., 2009). The affective component refers to the emotional responses (e.g., fun or pleasure) that are generated through marketing communication. Behavioral experiences are action-oriented and result in physical actions and bodily experiences. The cognitive component aims for mental processes, such as the enhancement of consumer’ creativity or the...
engagement in deep thinking. Finally, sensory experiences appeal to the five senses, which can further cause excitement and pleasure (Aaker, 1997, Gentile et al., 2007; Schmitt, 1999). Based on the literature, it is argued that a superior brand experience results in differentiation from other brands and builds a positive customer-brand relationship (Chang & Chieng, 2006; Nysveen, Pedersen, & Skard, 2013). Thus, it is assumed that the experience, which is assumed to be stored in a consumer’s memory for long-term, promotes strong emotional responses, further leading to a positive brand perception, for example, in terms of brand image and satisfaction. Besides, the experience may also affect future-directed responses. Customers are more likely to be faithful to the brand, have a higher willingness to recommend the brand to others, and intend to buy the brand’s products or services (Guzman & Iglesias, 2012; Ha & Perks, 2005; Iglesias et al., 2011). Therefore, H5a: Brand experience has a positive effect on brand perception. H5b: Brand experience has a positive effect on consumer behavior.

The existing marketing literature has also shown that brand perception, which is understood as the consumer’s general perception of and feeling about a brand, is considered to be a key driver of brand equity and thus has the potential to influence consumer behavior (e.g., Belén del Rio, Vazquez, & Iglesias, 2001; Esch, Langner, Schmitt, & Geus, 2006; Faircloth, Capella, & Alford, 2001; Keller, 1993). Therefore, in the given context of the print advertisement, it is suggested that positive brand perception leads to such behavioral outcomes as consumer willingness to buy the product, to pay a premium price, and to offer positive recommendations. Thus, H6: Brand perception has a positive effect on consumer behavior.

3.2 Data Collection and Sample

To test the introduced conceptual model, a laboratory experiment was conducted in July 2016. The main objective was to investigate the sensory perception of a specially prepared print ad promoting both a female and a male fragrance. To achieve a haptic effect, a self-adhesive foil highlighting the perfume bottles and brand logo was incorporated. In addition, a QR code playing the advertising jingle when activated was added for acoustics, and the corresponding perfume was sprayed on the print ad to appeal to the olfactory sense. The initial part of the study included direct stimulus contact, where participants had to absorb the sensory stimuli from the print ad. Next, the subjects were asked to evaluate the perfume, the men rating only the male fragrance and the women only the female fragrance. First, the participants completed a forced-choice implicit association test. Subsequently, a questionnaire was filled out: the first section asked introductory questions on, for example, the participants’ familiarity with perfumes and the brand; the second and main section included queries about the test variables (i.e., implicit and explicit sensory perception, product design, brand perception, and consumer behavior); and the third section contained social demographics.

In total, 77 subjects participated in the study. Table 1 presents the corresponding characteristics of the sample. The participants’ age ranged from 19 to 82, having an average age of 35.25 years. Most of the respondents were female (50.6%), single (64.9%), had a university degree (46.7%), were students (42.9%) and had a monthly income of either between 2000€ and 3000€ (20.8%) or higher than 4000€ (20.8%), respectively.

3.3 Data Analysis

The analysis software SPSS 24.0 was applied for the descriptive analysis of the demographic sample characteristics (i.e., means and frequencies) and for some aspects of the evaluation of the measurement models (i.e., Pearson correlation coefficient, Cronbach’s alpha, and variance inflation factor). For hypotheses testing, partial least squares structural equation modeling (PLS-SEM) was used, as the conceptual model contains reflective and formative indicators. The data analysis follows a two-step approach involving the evaluation of first the measurement models and second the structural model (Henseler, Ringle, & Sinkovics, 2009). For that purpose, the SmartPLS 2.0 analysis software was applied (Ringle, Wende, & Will, 2005) including the PLS algorithm (path weighting scheme) and bootstrapping and blindfolding and procedure (individual sign changes).
4. Findings

4.1 Evaluation of the Measurement Models

Prior to hypothesis testing, the measurement models are first checked to ensure reliability and validity (Henseler et al., 2009). With regard to the formative constructs (i.e., implicit sensory perception, explicit sensory perception, and product design), Table 2 presents the respective quality criteria. As required by Hair, Ringle, and Sarstedt (2012), all items show outer weights higher than 0.1. Except for the implicit visual and acoustic perception, all items have t values above 1.645 and are thus, at least on a 10% level, significantly important for the respective measurement model. Further, the maximum variance inflation factor (VIF) is 1.834, far below the limit of 10, so there are no multicollinearity problems (Diamantopoulos, Riefler, & Roth, 2008).

Referring to the reflective measurement models (i.e., brand experience, brand perception, and consumer behavior), Table 3 shows the values checking for quality. The criteria are satisfied throughout. The factor loadings, with a minimum value of 0.785, all exceed the limit of 0.7. Accordingly, indicator reliability is given (Hair, Ringle, & Sarstedt, 2011). The average variance extracted (AVE) clearly exceeds the 50% requirement, as it shows a minimum amount of 74.2%. This confirms convergent validity. Moreover, the AVE is always higher than the highest squared correlation with another latent variable. Thus, the Fornell-Larcker-criterion for discriminant validity is satisfied (Fornell & Larcker, 1981). Finally, the composite reliability shows its minimum at 0.901 and Cronbach’s alpha at 0.833, both of which are far above the limits of 0.7 and 0.6, respectively. Consequently, internal consistency reliability is also fulfilled (Bagozzi & Yi, 2012; Churchill, 1979; Peterson, 1994).

4.2 Evaluation of the Structural Model

In addition to the measurement models, the quality of the structural model must be tested. Table 4 shows the respective values of two prediction-oriented and nonparametric measures, the coefficient of determination (R²) and the cross-validated redundancy measure (Q²). R² ranges from 0.372 to 0.667. Thus, the results indicate a satisfactory goodness of fit (Chin, 1998). Furthermore, Q² reveals a minimum value of 0.309. Hence, all values are positive, which confirms the model’s predictive relevance (Geisser 1974; Stone 1974).

Table 1: Sample Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Characteristics</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>18 – 24 years</td>
<td>23</td>
<td>29.9</td>
</tr>
<tr>
<td></td>
<td>25 – 49 years</td>
<td>35</td>
<td>45.5</td>
</tr>
<tr>
<td></td>
<td>&gt; 50 years</td>
<td>19</td>
<td>24.7</td>
</tr>
<tr>
<td>Gender</td>
<td>female</td>
<td>39</td>
<td>50.6</td>
</tr>
<tr>
<td></td>
<td>male</td>
<td>38</td>
<td>49.4</td>
</tr>
<tr>
<td>Marital status</td>
<td>single</td>
<td>50</td>
<td>64.9</td>
</tr>
<tr>
<td></td>
<td>married</td>
<td>25</td>
<td>32.5</td>
</tr>
<tr>
<td></td>
<td>divorced</td>
<td>2</td>
<td>2.6</td>
</tr>
<tr>
<td>Education</td>
<td>junior high school diploma</td>
<td>15</td>
<td>19.5</td>
</tr>
<tr>
<td></td>
<td>senior high school diploma</td>
<td>26</td>
<td>33.8</td>
</tr>
<tr>
<td></td>
<td>university degree</td>
<td>36</td>
<td>46.7</td>
</tr>
<tr>
<td>Occupation</td>
<td>scholar</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>trainee</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>student</td>
<td>33</td>
<td>42.9</td>
</tr>
<tr>
<td></td>
<td>full-time employee</td>
<td>32</td>
<td>41.6</td>
</tr>
<tr>
<td></td>
<td>part-time employee</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>housewife/husband</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>retired</td>
<td>5</td>
<td>6.5</td>
</tr>
<tr>
<td>Income</td>
<td>&lt; 1000 €</td>
<td>13</td>
<td>16.9</td>
</tr>
<tr>
<td></td>
<td>1000 – 2000 €</td>
<td>14</td>
<td>18.2</td>
</tr>
<tr>
<td></td>
<td>2000 – 3000 €</td>
<td>16</td>
<td>20.8</td>
</tr>
<tr>
<td></td>
<td>3000 – 4000 €</td>
<td>13</td>
<td>16.9</td>
</tr>
<tr>
<td></td>
<td>&gt; 4000 €</td>
<td>16</td>
<td>20.8</td>
</tr>
<tr>
<td></td>
<td>no answer</td>
<td>5</td>
<td>6.5</td>
</tr>
<tr>
<td>Total sample size</td>
<td></td>
<td>77</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: VIF = variance inflation factor.

Table 2: Evaluation of the formative measurement models

| Implicit sensory perception | Visual | 0.191 | 1.154 | 1.555 |
|                            | Acoustic | 0.135 | 1.096 | 1.378 |
|                            | Haptic | 0.591 | 3.579 | 1.834 |
|                            | Olfactory | 0.311 | 1.923 | 1.722 |

Note: α = Cronbach’s alpha; AVE = average variance extracted; FLC = Fornell Larcker criterion; ρc = composite reliability; r² = highest latent variable correlation squared.

Table 3: Evaluation of the reflective measurement models

<table>
<thead>
<tr>
<th>Loadings</th>
<th>AVE</th>
<th>α</th>
<th>ρc</th>
<th>FLR (AVE &gt; r²)</th>
<th>R²</th>
<th>Q²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand experience</td>
<td>0.844</td>
<td>0.884</td>
<td>0.920</td>
<td>0.742&gt; 0.480</td>
<td>0.625</td>
<td></td>
</tr>
<tr>
<td>Brand perception</td>
<td>0.862</td>
<td>0.790</td>
<td>0.867</td>
<td>0.790&gt; 0.625</td>
<td>0.625</td>
<td></td>
</tr>
<tr>
<td>Consumer behavior</td>
<td>0.785</td>
<td>0.752</td>
<td>0.833</td>
<td>0.752&gt; 0.625</td>
<td>0.625</td>
<td></td>
</tr>
</tbody>
</table>

Note: α = Cronbach’s alpha; AVE = average variance extracted; FLC = Fornell Larcker criterion; ρc = composite reliability; r² = highest latent variable correlation squared.

Table 4: Evaluation of the structural model

| Explicit sensory perception | 0.551 | -   |
| Product design              | 0.372 | -   |
| Brand experience            | 0.440 | 0.309|
| Brand perception            | 0.557 | 0.400|
| Consumer behavior           | 0.667 | 0.453|

Note: VIF = variance inflation factor.
Finally, the research hypotheses can be verified. Table 5 shows the t values and path coefficients representing the significance and strength of the structural relations between the latent variables.

Table 5: Bootstrapping results for the causal relationships

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Original sample</th>
<th>Sample mean</th>
<th>SD</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1:</td>
<td>ISP → ESP</td>
<td>-0.743</td>
<td>0.068</td>
<td>10.867</td>
</tr>
<tr>
<td>H2a:</td>
<td>ISP → PD</td>
<td>-0.087</td>
<td>0.091</td>
<td>0.955</td>
</tr>
<tr>
<td>H2b:</td>
<td>ISP → BE</td>
<td>0.295</td>
<td>0.122</td>
<td>2.414</td>
</tr>
<tr>
<td>H3a:</td>
<td>ESP → PD</td>
<td>0.543</td>
<td>0.111</td>
<td>4.874</td>
</tr>
<tr>
<td>H3b:</td>
<td>ESP → BE</td>
<td>0.423</td>
<td>0.123</td>
<td>3.433</td>
</tr>
<tr>
<td>H4a:</td>
<td>PD → BE</td>
<td>0.497</td>
<td>0.068</td>
<td>7.353</td>
</tr>
<tr>
<td>H4b:</td>
<td>PD → BP</td>
<td>0.359</td>
<td>0.079</td>
<td>4.560</td>
</tr>
<tr>
<td>H5a:</td>
<td>BE → BP</td>
<td>0.471</td>
<td>0.073</td>
<td>6.441</td>
</tr>
<tr>
<td>H5b:</td>
<td>BE → CB</td>
<td>0.272</td>
<td>0.088</td>
<td>3.095</td>
</tr>
<tr>
<td>H6:</td>
<td>BP → CB</td>
<td>0.582</td>
<td>0.088</td>
<td>6.635</td>
</tr>
</tbody>
</table>

Note: SD = standard deviation; ISP = implicit sensory perception; ESP = explicit sensory perception; PD = product design; BE = brand experience; BP = brand perception; CB = consumer behavior.

With reference to the first hypothesis, which covers the influence of the implicit on the explicit system, the results actually reveal a highly significant effect, although it is negative (b = -0.743, p ≤ 0.001). However insightful, hypothesis H1 in its above-postulated form must be rejected. The next four hypotheses address the driving role of sensory perception for product design and brand experience. The findings show that perceived product design is driven only by the explicit component of sensory perception (b = 0.543, p ≤ 0.001), not by the implicit one (b = -0.087, p > 0.1). Moreover, the experience with a brand is significantly affected by both explicit sensory perception (b = 0.423, p ≤ 0.001) and implicit sensory perception (b = 0.295, p ≤ 0.05). Hence, hypothesis H2a is rejected, while hypotheses H2b, H3a, and H3b find full empirical support. Further, the following three hypotheses address the effect of product design on brand-related outcome variables. More specifically, the study provides evidence for a highly significant impact on brand experience (b = 0.497, p ≤ 0.001) and brand perception (b = 0.359, p ≤ 0.001). By contrast, consumer behavior is not directly enhanced by product design (b = 0.032, p > 0.1). Consequently, hypothesis H4c is rejected, while hypotheses H4a and H4b are confirmed. Moreover, the effect of brand experience on brand-related outcome variables is tested. The results indicate that a positive experience with a brand contributes to a better overall perception of that brand (b = 0.471, p ≤ 0.001) and a more favorable behavior of the consumer toward that brand (b = 0.272, p ≤ 0.01). Thus, both hypotheses H5a and H5b are verified. Finally, the last hypothesis contains the effect of brand perception on consumer behavior. Correlating with former research, the findings show a highly significant and strong causal relationship (b = 0.582, p ≤ 0.001). Overall, the results reveal that eight of the eleven hypotheses find full empirical support, so a causal chain of direct and indirect effects from sensory perception to consumer behavior is detected (see Figure 2).

5. Discussion

The data analysis confirms a major part of the theoretically based model. The results reveal that sensory perception is an important driver of product- and brand-related outcome variables in the chosen context of the print advertisement. Specifically, the incorporation and coherent use of several sensory stimuli lead to positive consumer behavior. The findings show a positive, indirect effect of explicit sensory perception on both brand perception and consumer behavior. In this context, product design and brand experience work as mediators. On an explicit level, all sensory drivers show significant results. The visual perception is the most important driver (b = 0.508, p ≤ 0.001). Haptic perception plays a substantial but less significant role (b = 0.335, p ≤ 0.01), followed by acoustic and olfactory perception, which have almost equal effects (b = 0.278, p ≤ 0.05; b = 0.263, p ≤ 0.05). The findings correlate with existing marketing literature, highlighting visual perception as the strongest driver in most contexts (Schifferstein, 2006). However, our results also point to the importance of the other senses. With regard to the implicit level, only two of the four drivers are significant. Haptic perception is the most powerful driver (b = 0.591, p ≤ 0.001). Olfactory perception plays a lesser but still significant and essential role (b = 0.311, p ≤ 0.1). The reason for the strong effect of haptic perception on an explicit and implicit level might be found in the nature of print ads: as they are usually integrated into advertising materials made of paper (e.g., in journals), contact with the ad is often accompanied by physically touching it. This is why haptic perception might have such a strong, positive influence. For olfactory perception, the value for the implicit perception is higher than for the explicit perception. Therefore, it can be assumed that the olfactory sense is perceived more strongly on an implicit level and that the dominant implicit perception causes an inferior explicit effect. In fact, haptic and olfactory perception might also be influenced by imagery induced by, for example, the visual cues of the advertisement (Deng & Kahn, 2009; Krishna, Morrin, & Sayin, 2013). However, the direct effect of implicit on explicit sensory perception is negative. A potential reason for this result could be that the participants were implicitly averse to the print ad, which was rather indecent in terms of showing a half-naked man touching an attractive woman. However, the respondents did not express this reluctance explicitly. Because the print ad promotes a renowned luxury brand, this contradiction might be explained by the participants’ generally positive attitude toward that brand, regardless of the print ad. Thus, if marketing managers implement different sensory stimuli, they must be...
aware of both the explicit and implicit effects and, to make the advertisement more effective, should ensure that there is no conflict between the perception levels.

The study reveals the significance of various senses on an explicit and implicit level, providing evidence for the importance of a multisensory marketing approach in which the appeal of all senses is paramount. Moreover, the results confirm a positive and strong effect of explicit sensory perception on perceived product design, whereas implicit sensory perception shows only an indirect effect through explicit sensory perception. All dimensions of product design reveal significant results. Symbolism seems to be the strongest driver (b = 0.547, p ≤ 0.001), followed by aesthetics (b = 0.406, p ≤ 0.001) and functionality (b = 0.301, p ≤ 0.01). These findings correlate with recent insights emphasizing the importance of the symbolic dimension when examining aspects of product design. In the specific case of the print advertisement, the sensory stimuli perceived from the print ad mainly promote the appearance of the product and communicate symbolic value but only partly explain the functional aspects. Thus, marketing managers should always be aware of the specific positioning context in which they are operating and further conclude from this which product design dimensions might be of increased importance for an overall evaluation. Additionally, to address a specific dimension, the product itself must be created in a multisensory way to provide additional information on a conscious or subconscious level. Moreover, for brand experience, the results indicate a positive direct effect from implicit and explicit sensory perception and perceived product design as well as an indirect effect from implicit sensory perception, where explicit sensory perception and product design work as mediators. In the given context of print ads, the composition of different sensory stimuli and the promotion of the product itself can be used to implement a holistic experiential marketing concept that evokes positive feelings or engages consumers in deep thinking and attracts behavioral options.

The question arises of how sensory stimuli can be designed to be fully effective in addressing the different experience components. In addition, the sensory perception has an indirect impact on perceived product design. This is why the use of sensory stimuli can be linked to the promoted product to achieve a strong effect, for example, through special haptic, olfactory or acoustic elements highlighting the specific product within the ad. Moreover, product design and brand experience show a strong and positive impact on brand-related outcomes. Because brand perception also positively influences consumer behavior, there are partial mediator effects in both cases. First, the perceived product design has no direct impact on consumer behavior but has an indirect impact on brand experience and brand perception. Second, brand experience influences consumer behavior both directly and indirectly through brand perception. Thus, when consumers perceive product design and brand experience well, their behavior becomes more favorable, and they experience a positive overall assessment of the brand. Accordingly, to build a positive relationship between the customer and the brand with the help of a multisensory marketing concept, special attention should be paid to the mediation of strong product design and brand experience. These can be seen as important drivers, as they explain 55% of the variance of brand perception and 66% of the variance of consumer behavior.

To conclude, in the given context of print ads, the data analysis shows that implicit and explicit sensory perception is relevant success drivers for the implementation of a brand experience and for strengthening the perceived product design, which in turn leads to a satisfied and loyal customer. To gain a positive overall assessment of a brand in terms of brand image, trust, and satisfaction and to make customers buy the brand’s products, an appealing product design and an integrated experiential marketing approach are crucial. Accordingly, the implementation of different sensory stimuli seems to be a promising brand management tool for creating effective print ads. Hence, our results broaden conventional thinking that has focused on the visual sense as the only one to appeal to.

6. Conclusions and Outlook

The aim of this paper was to analyze the potential of sensory cues in the context of the print advertisement. The results confirm the assumption that addressing different sensory modalities in a congruent way can have a positive influence on brand-related outcome variables. In particular, the study provides new insights into the effects of both explicit and implicit sensory perception on product design, brand experience, brand perception, and consumer behavior. Furthermore, it has been shown that product design and brand experience act as mediating factors between the consumer’s sensual stimulation and response.

Moreover, our results provide an opportunity for further research, especially in the field of sensory marketing. First, it would be interesting to determine which sensory modalities have the strongest impact. Therefore, a group comparison study with different amounts of sensory stimuli per group would be necessary. In addition, the use of various sensory stimuli with different characteristics would add even more insights to this topic. Second, the impact of demographic, cultural, and situational aspects as moderator variables could be assessed to gain more insights into the underlying relationships. Third, the conceptual model can be used as a foundation in the context of (print) advertisement and in many other areas (e.g., product policy). Although there is still a great need for more research to understand the underlying relationships, these findings will also help brand managers, especially in the field of print advertisement, to manage sensory stimuli effectively and succeed in a competitive market. To this end, the results also emphasize that when implementing a successful multisensory marketing strategy, “how” things are done is more important than “whether” something is done.

References

• Consumer Research, 24 (4), 374-394.
• Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18 (1), 39-50. Crossref


Peck, J., & Childers, T. L. (2006). If I touch it I have to have it: Individual and environmental influences on impulse purchasing. Journal of business research, 59 (6), 765-769. Crossref


• Underwood, R. L., & Klein, N. M. (2002). Packaging as brand communication: effects of product pictures on consumer responses to the package and brand. Journal of Marketing Theory and Practice, 10 (4), 58-68. Crossref