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## Multi-sensory sculpting (MSS): Eliciting embodied brand knowledge via multi-sensory metaphors

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### ABSTRACT

This article approaches brand knowledge retrieval from an embodied cognition perspective, assuming that brand-related cognitive representations result from conscious and non-conscious brand experiences involving multiple senses. Consumers store embodied brand knowledge on a predominantly non-conscious and modality-specific level and use multi-sensory metaphors to express embodied knowledge. Retrieving embodied brand knowledge requires methods that (a) stimulate various senses that have been involved in brand knowledge formation and (b) give consumers the opportunity to express themselves metaphorically in a format similar to their cognitive representations. This article introduces multi-sensory sculpting (MSS) as a method that allows retrieving embodied brand knowledge via multi-sensory metaphors and proposes a multi-layered metaphor analysis procedure to interpret these multi-sensory data. The paper provides an empirical example illustrating the identification of embodied consumer brand knowledge via MSS data. The article concludes with implications for management highlighting the advantages of MSS compared to other methods.

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### 1. Introduction

A large body of branding literature perceives brands as cognitive phenomena in consumers' minds. Most research builds on classical cognitivist assumptions (cf. Anderson & Bower, 1973) arguing that consumers store brand knowledge as abstract and stable brand associations in semantic memory (Keller, 1993). This paper challenges these traditional assumptions and approaches brand knowledge from the perspective of embodied cognition theory. Embodiment emphasizes corporeal and context-responsive functions of consumer cognition and “stands in sharp contrast to a long tradition of research that acknowledged contextual (and bodily) influences with some despair” (Schwarz, 2006, p. 21 (text in parentheses added)).

Embodied knowledge results from multi-sensory brand experiences, that is, subjective responses to brand-related stimuli consumers experience via multiple senses and introspective states (Brakus, Schmitt, & Zarantonello, 2009). Embodied brand knowledge consists of multi-sensory images reflecting consumers' experiences. Consumers store embodied brand knowledge on a predominantly non-conscious and modality-specific level (i.e., in the same way in which they sensorially experienced the brand) (Loken, Barsalou, & Joiner, 2008). Multi-sensory metaphors (i.e., verbal and non-verbal

figurative expressions) allow individuals to convey embodied brand knowledge (cf. Johnson, 2009).

Current brand research methodology does not satisfy the challenges arising from the multi-sensory, dynamic, and non-conscious nature of embodied brand knowledge. Research still strongly relies on direct, verbo-centric techniques in studying brand knowledge, for example, free association techniques, stories, or fixed-point scales (e.g., Aaker, 1997; Brakus et al., 2009; Escalas, 2004; Keller, 1993; Woodside, 2006). These methods allow accessing only conscious brand knowledge; while the ninety-five percent of thinking that takes place below the level of consciousness remains inaccessible (cf. Bargh, 2002; Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001; Zaltman, 2003). Only few marketing researchers recognize the importance of studying non-conscious, embodied brand knowledge and suggest methods that aim tapping this type of knowledge, such as, the Zaltman Metaphor Elicitation Technique (e.g., Zaltman, 1997) or collage technique (e.g., Belk, Geer, & Askegaard, 2003). These methods retrieve brand knowledge in a metaphorical way by stimulating senses brand experience originally involved. While offering first important insights into embodied brand knowledge, these methods mainly focus (1) on the direct stimulation of one human sense (i.e., vision) while neglecting or only verbally stimulating other senses and (2) on analyzing verbal and visual metaphors while widely ignoring other types of non-verbal metaphors.

Building on insights from management and organization studies (e.g., Barry, 1994; Sims & Doyle, 1995), this article contributes to current brand knowledge research by introducing multi-sensory sculpting (MSS) as a method for retrieving and analyzing embodied brand

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knowledge. Contrary to existing research methods, MSS (a) directly stimulates multiple senses brand experience originally involved, (b) allows respondents to metaphorically express embodied brand knowledge via multi-sensory brand sculptures and related verbal explanations, and (c) proposes a metaphor-based data analysis approach to interpret verbal and non-verbal metaphors. An empirical example illustrates the identification and analysis of consumers' embodied brand knowledge regarding an internationally operating Austrian luxury brand. The article concludes with implications for management highlighting advantages of MSS compared to other methods.

## 2. Brands as embodied knowledge

Building on cognitive psychology, traditional branding literature defines a brand as knowledge in consumers' minds. Researchers following this school of thought investigate how consumers internalize brand information and assume that consumers store brand knowledge as abstract and stable brand associations in semantic memory (e.g., Aaker, 1991; Keller, 1993). The assumption that brand knowledge mainly consists of verbal and rational representations is in line with classical cognitivism (cf. Anderson & Bower, 1973). This stream of research widely neglects the relevance of information resulting from multi-sensory brand experience (cf. Barsalou, 2003; Schwarz, 2006).

Approaching brand knowledge from the perspective of embodied cognition theory challenges the assumptions traditional branding theorists rely on. In line with research in the field of embodiment (e.g., Barsalou, 1999, 2003; Damasio, 1994; Loken et al., 2008) consumers can be assumed to store brand knowledge in the form of multi-sensory images in modality-specific regions of the brain. Multi-sensory images contain brand-related information on what consumers have consciously and non-consciously sensed, touched, felt, smelled, tasted, moved, viewed, talked, and heard (Bargh, 2002; Holbrook & Hirschman, 1982; Loken et al., 2008; Zaltman, 1997). Consumers store this information predominantly on a non-conscious level (Barsalou, 1999; Zaltman, 1997). Considering brands as embodied knowledge advances the traditional, cognitivist view on brands by accounting for the multi-sensory and non-conscious nature of brand knowledge.

## 3. Characteristics of embodied brand knowledge

### 3.1. Development of embodied brand knowledge via brand experience

"At every moment of our lives there is something going on, some experience" (Varela, Thompson, & Rosch, 1991, p. 59). Experience describes a direct, personal participation or observation and includes the apprehension of an object, thought, or emotion through senses and mind (<http://www.thefreedictionary.com/experience>). Consumers experience a brand via brand-related stimuli (i.e., tangible and intangible manifestations of what consumers associate with a brand) through vision, smell, touch, taste, audition, motion, and emotion. Brand-related stimuli include, for instance, the physical product, people, activities, or patterns of behavior and actions (Brakus et al., 2009). The following example describes how consumers experience the brand in a multi-sensory way: Driving a Renault car involves an active bodily engagement of consumers with the brand in an environment (Sheller, 2004). The moving sense perceives curves producing kinesthetic experiences. Different smells from the interior or the gas, the roaring of the engine, the view on the speed control, the feeling of touching the steering wheel and the perception of the surrounding country side contribute to the multi-sensory experience of the Renault brand. The consumer may feel a thrill, passion, happiness, excitement, fear or sick to the stomach when driving a Renault (Sheller, 2004). This example illustrates a form of brand experience in which consumers are mostly consciously aware of interaction

between body and brand-related stimuli. Additionally, non-conscious experience and evaluation of objects and events in one's environment happen automatically beneath the level of awareness (Bargh, 2002; Bargh et al., 2001; Damasio, 1999; Gallagher, 2005; Johnson, 2009). For example, the driver of the Renault car might not be consciously aware of different muscle systems allowing him to press the gas pedal with his foot.

Consumers experience brands not only via perception. Introspective (i.e., internal cognitive) states allow consumers to think of, reflect on, or simulate brand experience (e.g., Barsalou, 1999; Holbrook & Hirschman, 1982; Joy & Sherry, 2003). For example, the driver of the Renault car can mentally simulate the experience of driving a Porsche car via introspection without ever having such a brand experience. The driver may think of how it feels to touch the metal of the engine hood, how the engine sounds, how the leather seats smell, how proud he feels, and how other drivers react to the Porsche. Consciously and non-consciously experiencing the brand via multiple senses and introspection leads to the development of embodied brand knowledge (Barsalou, 2008).

### 3.2. Metaphor as process and product of embodied brand knowledge

Consumers transform multi-sensory and introspective brand experiences into multi-sensory images representing the brand in their minds. Different modality-specific brain regions work cooperatively to capture multi-sensory images on a non-conscious level (Barsalou, 1999; Calvert, Spence, & Stein, 2004; Kosslyn, 1995). Cognitively simulating multi-sensory brand images allows consumers to mentally re-experience the brand (e.g., a Renault car ride) even in its absence (cf. Barsalou, 1999). Via such cognitive acts consumers can also transform former experiences and arrive at new brand-related knowledge (cf. Johnson, 2009).

Metaphors support consumers in making sense of embodied experiences and help structuring, interpreting, and expressing non-conscious, embodied knowledge (Johnson, 2009; Zaltman, 1997). Metaphor is thus both "an essential process and product of thought" (Feinstein, 1982, p. 45) that captures patterns of bodily processes and cognitive operations arising from multi-sensory and introspective experiences (Lakoff & Johnson, 1999). The term metaphor stems from the Greek word *metapherein* (*meta* = involving change; *pherein* = to bear or carry): "Change occurs when attributes ordinarily designating one entity are transferred to another entity" (Feinstein, 1982, p. 47). Accordingly, metaphor implies "understanding and experiencing one kind of thing in terms of another" (Lakoff & Johnson, 1980, p. 5).

In order to convey embodied brand knowledge consumers transform multi-sensory mental images into metaphors (Johnson, 2009). Language is one central modality to express embodied knowledge (Marks, 1996). Verbal metaphors support a message's receiver to mentally simulate the aspects of embodied brand experience that language refers to (cf. Johnson, 1987). The verbal metaphor "life is a journey" illustrates a metaphor's central components (cf. Feinstein, 1982): (a) topic (life): that about which something is said; (b) vehicle (journey): basis for meaning transfer from one thing to another; (c) ground: similarities between vehicle and topic; (d) tension: dissimilarity between vehicle and topic (life and journey belong to different categories). The example shows how a verbal metaphor constructs meaning via a category mistake (cf. Feinstein, 1982).

Several authors criticize the heavy focus research puts on verbal metaphors (e.g., Forceville, 2007; Johnson, 2009). Verbal language cannot express those aspects of experience which require non-verbal, metaphoric expression (cf. Davidson, 1979). Consumers might, for instance, choose pictures, movements, or sounds for expressing multi-sensory mental brand images. Non-verbal metaphors differ from verbal metaphors in that they often explicitly display a vehicle while detaining the underlying topic (cf. Feinstein, 1982). A consumer might, for instance, choose a picture of a Porsche car to express her brand

experience. The picture explicitly displays the metaphor's vehicle (car) transmitting some literal, denotative meaning (e.g., means of transportation). The topic of the metaphor, however, depends on the viewer's interpretation. The viewer needs to find out what a Porsche car is like to understand the metaphor's non-literal, connotative meaning (e.g., masculinity, strength). Even though connotative meaning is highly subjective, interpretations should relate to evident features of the metaphor (Feinstein, 1982).

To sum up, metaphors represent complex brand-related information in a compact and vivid way, thereby approximating actual brand experience (cf. Johnson, 2009). By focusing on non-literal, connotative meaning metaphors support consumers in expressing the inexpressible: "Metaphor urges us to look beyond the literal, to generate associations and to tap new, different, or deeper levels of meaning" (Feinstein, 1982, p. 45). Fig. 1 gives an overview on the development, processing and expression of embodied brand knowledge Section 3 discussed.

#### 4. Existing methods for embodied brand knowledge retrieval

Retrieving embodied brand knowledge requires (a) stimulating various senses brand experience originally involved in order to activate non-conscious, multi-sensory mental brand images (cf. Damasio, 1994; Wheeler, Petersen, & Buckner, 2000) and (b) allowing consumers to express themselves metaphorically in a format similar to their mental brand images (cf. Johnson, 2009).

A major limitation of existing brand knowledge retrieval methods is their inability to actually appreciate the multi-sensory, predominantly non-conscious nature of embodied brand knowledge (cf. Zaltman, 1997). Most methods rely on asking direct questions while ignoring that "when asked direct questions ... people ponder a question, they process a question, and when they deliver an answer, it is the product of deliberation" (Rapaille, 2006). Quantitative approaches, for instance, aim to measure embodied brand knowledge via fixed-point scales (e.g., Rosa & Malter, 2003) and focus on verbal and explicit responses only (Woodside, 2006). Verbo-centric, qualitative approaches such as storytelling (e.g., Schembri, 2009) can activate multi-sensory images (Simmons, Hamann, Harenski, Xiaoping, & Barsalou, 2008) but do not support respondents in expressing non-conscious, embodied knowledge (Koll, von Wallpach, & Kreuzer, 2010). Observation techniques (e.g., Joy & Sherry, 2003) generate non-verbal but still explicit data and accordingly do not allow to access individuals' non-conscious minds (Woodside, 2006). While providing valuable insights into conscious brand knowledge, these methods do not give access to non-conscious embodied brand knowledge (cf. Bargh, 2002; Bargh et al., 2001; Zaltman, 1997).

Only few projective techniques sensually stimulate consumers to tap non-conscious, embodied brand knowledge. So far, the main

focus of existing techniques is on the visual sense. The Zaltman Metaphor Elicitation Technique (ZMET) (e.g., Coulter, Zaltman, & Coulter, 2001; Zaltman, 1997) is a projective, metaphor-based technique explicitly focusing on consumers' non-conscious, embodied knowledge. Respondents have one week to collect pictures representing their brand-related knowledge. Respondents then verbally explicate their pictures' meaning in a multi-step interview. ZMET asks for representations involving other senses besides vision, but avoids to directly stimulate these senses. While aiming to access non-conscious knowledge ZMET may actually initiate rational thinking processes by giving respondents one week to actively look for pictures (Coulter et al., 2001). An alternative way to advance to visual embodied brand knowledge is via collage technique: consumers use visual materials that researchers provide to express themselves metaphorically and verbally explain their collages' meaning (e.g., Belk et al., 2003). Both techniques support consumers in expressing themselves via verbal and visual metaphors (Woodside, 2006) but neglect stimulating other senses embodied brand knowledge might involve.

Peck and Childers (2008) recently called to move from a more sense-by-sense perspective to investigations of the multi-sensory integration of sensory inputs. Similarly, Calvert et al. (2004, p. 11) argue that "there can be no doubt that our senses are designed to function in concert and that our brains are organized to use the information they derive from their various sensory channels cooperatively in order to enhance the probability that objects and events will be detected". In line with these arguments, this paper stresses the need for a method directly stimulating multiple senses and an analysis approach considering multi-sensory metaphors individuals use in expressing embodied brand knowledge.

#### 5. Multi-sensory sculpting as a method for embodied brand knowledge retrieval

This paper presents multi-sensory sculpting (MSS) as a method to retrieve embodied brand knowledge. MSS is in the tradition of managerial and organizational knowledge elicitation techniques such as cognitive sculpting (Sims & Doyle, 1995) and other analogy-based methods (e.g., Barry, 1994). MSS provides respondents with multi-sensory stimuli encouraging them to express their mental brand images via multi-sensory (verbal and non-verbal) metaphors (cf. Damasio, 1994; Johnson, 2009; Wheeler et al., 2000). The data analysis procedure focuses on detecting the metaphors' meanings to gain insights into consumers' embodied brand knowledge. The following sections introduce the MSS procedure.

##### 5.1. Toolkit development

MSS relies on a toolkit containing a collection of abstract construction materials stimulating different senses (cf. Sims & Doyle, 1995).

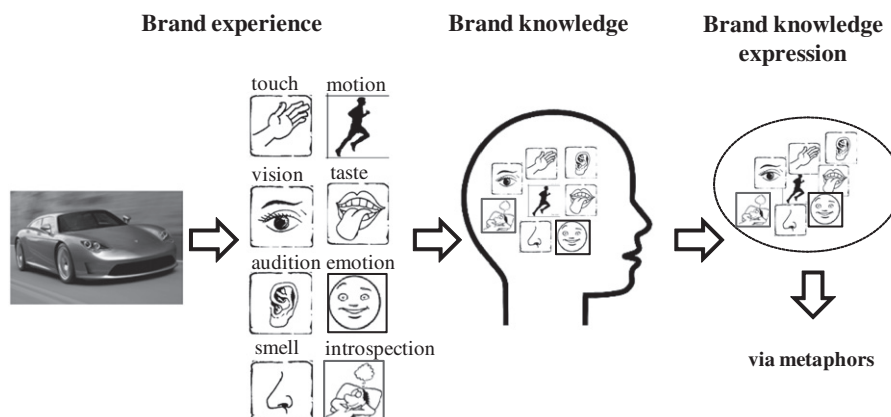


Fig. 1. Development, processing and expression of embodied brand knowledge.



This toolkit is the result of an intense brainstorming process the two authors and two research assistants engaged in. The brainstorming involved relating different senses to characteristics of brand experiences. Fig. 1 illustrates the underlying rationale. Consumers consciously and non-consciously experience brand-related stimuli via multiple senses leading to the development of embodied brand knowledge. Retrieving embodied brand knowledge requires stimulating those senses brand experience originally involved. The toolkit materials can stimulate those senses and support consumers in metaphorically expressing mental brand images. In order not to constrain respondents' creativity and to allow them to freely express their brand-related knowledge, the researchers chose abstract materials. Table 1 shows part of the materials the toolkit includes, their characteristics, and the senses they can stimulate.

The main advantages of using a pre-defined toolkit as compared to respondents collecting their own pictures (cf. Zaltman, 1997) are that researchers can (a) ensure that the toolkit contains materials stimulating multiple senses and (b) encourage non-conscious mental processing by avoiding that respondents engage in a long-term rational search and choice process. In exploring the toolkit materials respondents may not only re-activate sensory information (e.g., tactile feelings, visual impressions or smells) materials (e.g., wood) directly stimulate. Since multiple senses operate in concert, cross-modal perception can occur (Stevenson, Boakes, & Prescott, 1998): via mental simulation respondents can activate brand-related mental images relying on other modalities, such as language, audition, taste, motion or emotion.

## 5.2. Data gathering

The MSS procedure suits brands from different industries and different stakeholder groups (e.g., consumers, employees). As for ZMET, a sample of 15–20 respondents is recommendable (cf. Zaltman, 1997). The MSS procedure focuses on investigating embodied brand knowledge on an individual level.

### 5.2.1. Toolkit exploration

The data gathering process starts by asking respondents to freely explore the materials at their disposition with all senses. This first step allows respondents to become familiar with the materials and to non-consciously pre-activate different senses that may be relevant for the actual construction task.

**Table 1**  
MSS toolkit.

Senses objects stimulate	Examples for object characteristics	Examples for objects
Touch	Soft, tender	Cotton, wax, fur, plasticine, sand, powder, silk
	Hard	Stone, metal, glass
	Coarse	Sand paper, stone
Taste	Spicy	Wasabi nuts, chili
	Sweet	Sugar, chocolate, jelly beans, different sweets
	Hot/cold	Different drinks and food
Smell	Fruity scent	Fruit aromas (e.g., strawberry, vanilla), fruits
	Nature scent	Natural aromas (e.g., forest, flowers, ocean) and materials (e.g., wood)
	Aromatic spicy scent	Spices
Audition	Music	ipods with different music genres (e.g., rock, pop, classical music)
	Natural (sounds)	ipods with different nature sounds
	Human (sounds)	ipods with different human sounds (e.g., yawning, talk)
Vision	Colorful	Different materials with different colors
	Bright, glaring	Crystal, glass, fire, materials with bright colors
	Glimmering	Glitter, crystal
Introspection emotion	Frightening	Different sounds,
	Disgusting	Slime, different food of spices
	Funny	Different toys

### 5.2.2. Multi-sensory sculpting

In a second step, researchers provide respondents with a simple task description: "Please build a sculpture that represents what the brand means to you by using the materials available in this room". Researchers do not provide respondents with any instructions which materials to use or how to assemble their brand sculptures. Respondents have as much time as they need to choose materials and combine these materials into one or more multi-sensory brand sculptures. Respondents can wonder back and forth between their sculptures and the materials until they are satisfied with their masterpiece. The resulting brand sculptures consist of multi-sensory materials that are non-verbal, metaphorical expressions of multi-sensory mental brand images.

### 5.2.3. Interview

Following Weick (1979) people do not know what they think until they hear what they say. Accordingly, respondents can only surface deeper, subjective levels of brand meaning via emic verbal interpretations of their own brand sculptures (cf. Weick, 1995; Woodside, 2006). The last step of the MSS data gathering procedure therefore consists of long, unstructured one-on-one interviews (cf. McCracken, 1988). This method is particularly appropriate since it "can take us into the mental world of the individual ... to see the content and pattern of daily (brand) experience" (McCracken, 1988, p. 9 (text in parentheses added)). During the interview, researchers mainly rely on the autodrivng technique and use respondents' non-verbal metaphors as "stimuli for projective interviewing" (Heisley & Levy, 1991, p. 257; McCracken, 1988). Non-directive grand-tour questions encourage respondents to verbally explicate single materials constituting their sculptures, the materials' arrangement, and the sculptures' overall meanings (McCracken, 1988). Respondents have the opportunity to respond each question in an exploratory and unstructured manner to preserve the open-ended nature of the interview (McCracken, 1988). This procedure supports respondents to express embodied brand knowledge that may be "submerged beneath the surface of consciousness" (McCracken, 1988, p. 23) in a narrative, metaphorical way that is similar to their mental representations (cf. Ricoeur, 1975; Schank, 1990). Throughout this procedure, researchers and respondents reciprocally co-produce meaning in a so-called "reflexive process" (Hall, 2004; Hollinshead & Jamal, 2007, p. 101). Researchers take photos of the brand sculptures and tape-record as well as literally transcribe verbal explications.

## 5.3. Data analysis

In order to gain rich insights into embodied brand knowledge, data analysis involves researchers' (etic) analysis of respondents' (emic) verbal interpretations of their brand sculptures. A minimum of two researchers separately analyze respondents' verbal explications, considering both the types of verbal metaphors that arise (e.g., Johnson, 1987) and the meanings these metaphors express (cf. Arnold & Fischer, 1994). Researchers continuously relate verbal metaphors to corresponding non-verbal metaphors (i.e., materials the sculpture contains and senses these materials stimulate) in order to extract underlying brand meanings. Non-verbal metaphor analysis follows the same principles as verbal metaphor analysis (cf. Forceville, 2007). Fig. 2 offers a concrete data analysis example showing how both verbal and non-verbal metaphors express brand meanings.

Initially, variability of researcher interpretations can be fruitful to discern multiple meanings the data might contain (Arnold & Fischer, 1994). A comparison of interpretations should then lead to a consensual understanding of the data. Supported by the qualitative data analysis software ATLAS.ti researchers ultimately create a so-called embodied brand knowledge map (cf. Novak, 1991) that aggregates the results and illustrates (a) links between the most frequent meanings verbal and non-verbal metaphors express and (b) senses the elicitation of these meanings involves. In constructing the map

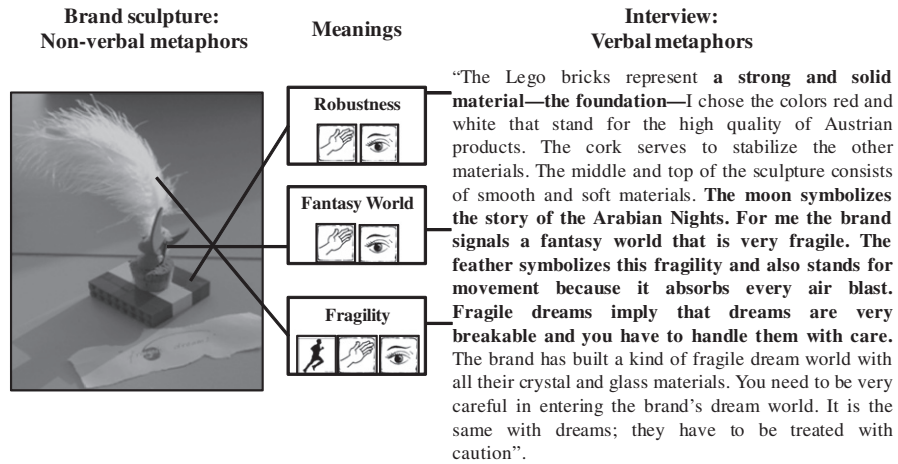


Fig. 2. Data analysis example.

researchers consider both the number of respondents who mentioned a certain meaning and who linked two meanings with each other. The map includes only meanings at least one third of the respondents mentioned (cf. Zaltman, 1997).

6. Illustrative example

The authors pre-tested the MSS procedure with five brands from different industries (education, finance, health care, consumer goods, information technology) involving 85 individuals (60% female and 40% male) from different brand stakeholder groups (consumers and employees). Respondents quickly became familiar with the MSS task and worked between 20 and 45 min on their sculptures. All respondents built a single sculpture representing the brand. Respondents who had missed any materials for expressing their multi-

sensory brand images were encouraged to verbally describe the materials and their intended position within the sculpture.

For illustration purposes, this section forwards a data analysis example presenting the embodied brand knowledge map of an internationally operating Austrian luxury brand. A total of 15 consumers (age: 25 to 42; gender: 40% females, 60% males) participated in the MSS workshop.

The embodied brand knowledge map in Fig. 3 depicts brand meanings and relationships between them. In total, researchers identified 21 meanings regarding the focal brand. On average, each respondent provided six meanings—multiple responses were possible. The map includes about 90% of the total meanings respondents provided. The numbers and symbols next to each meaning indicate the number of mentions and the senses involved in eliciting the meaning. Links between meanings illustrate the respondents' core chains of

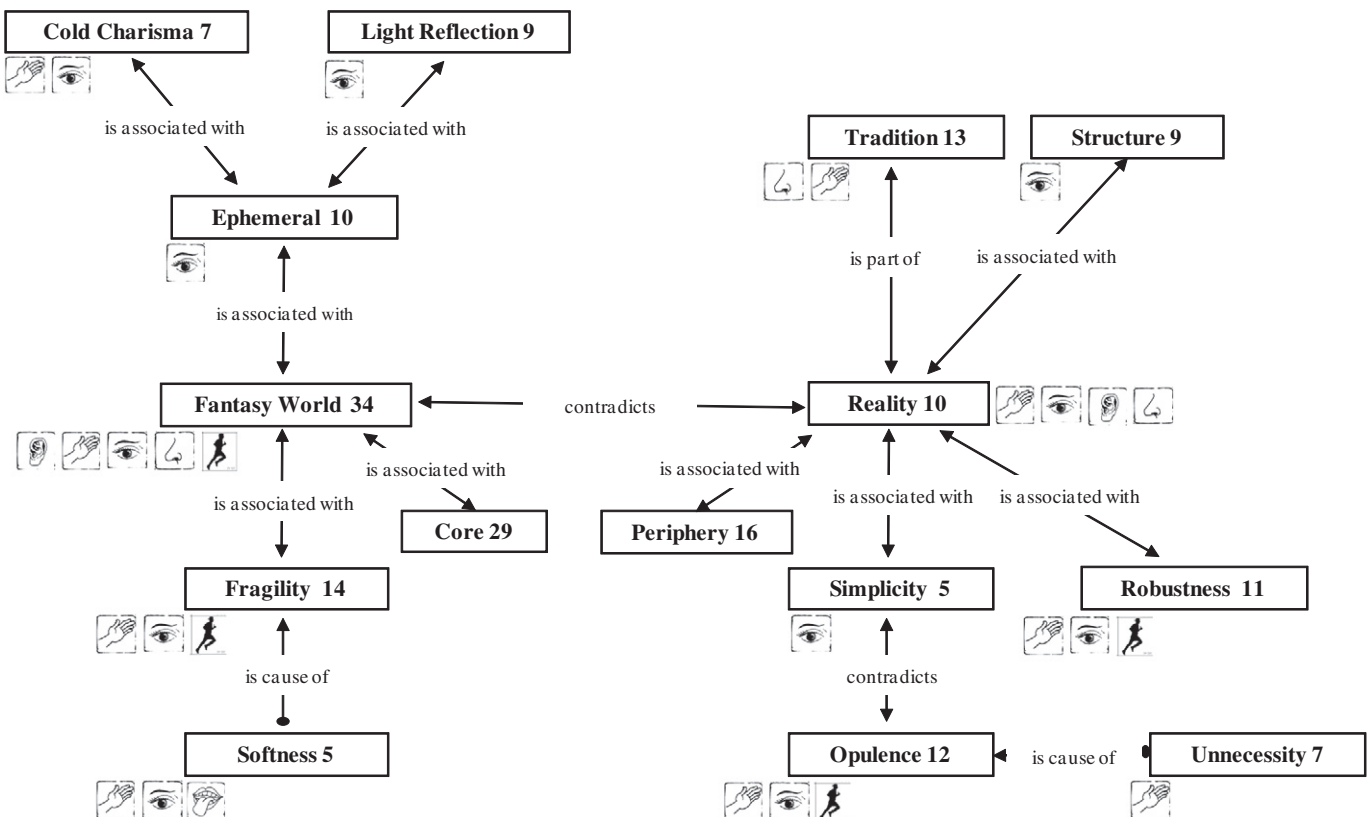


Fig. 3. Embodied brand knowledge map.

associations and the type of relationship between meanings (i.e., associational, contradictory, participatory or causal).

The meanings “Fantasy World” and “Reality” establish a dichotomy characterizing respondents’ embodied brand knowledge. Respondents describe Fantasy World with verbal metaphors like “dreams”, “floating on clouds”, “winter wonderland”, “far-away world”, or “fairy-tale”. One respondent argues: “It could be something like a cloud; not a real place but a place I have never been to before; some surreal planet surrounded by clouds and feathers symbolizing something fantastic”. Respondents’ verbal metaphors (e.g., “dreams are like movements, uncontrollable, quickly disappearing”) also illuminate movements relating to Fantasy World (cf. Johnson, 2009). Respondents further support the meaning Fantasy World via non-verbal metaphors (e.g., cotton, aluminum foil, moon and stars, glitter, crystals, and pearls) that stimulate multiple senses (i.e., vision, touch, and smell). Respondents intensify the Fantasy World’s impression via auditory stimuli (e.g., elf-like melody “Lilium” <http://www.youtube.com/watch?v=ZgJxNO-8CpY>).

Respondents strongly associate Fantasy World with the meanings “fragility” and “ephemeral”. Verbal metaphors (e.g., “vulnerable creature characterized by lightness and glamor”, “fragile nature”, or “catching the light that is fast and ephemeral”) as well as non-verbal metaphors in respondents’ sculptures (e.g., gems, glittering materials, feathers, aluminum foil, perfumes) support these meanings. Materials representing the ephemeral are often white or ice-blue colored and reflect rays of light emphasizing fugacity. One respondent describes the ephemeral: “Frost patterns are beautiful, elaborated, sophisticated but characterized by a cold charisma. Even though one can find them in nature they are short-lived artifacts disappearing when it is getting warmer; they are beautiful, but cold and ephemeral”. To express fragility, respondents use materials that break easily and can be harmed by external forces (e.g., crystals, glass). Respondents protect these precious, fragile items that are part of the Fantasy World by surrounding them with soft materials (e.g., cotton, wool, jelly beans).

The brand’s Fantasy World contradicts brand Reality. Respondents’ verbal and non-verbal metaphors express this dichotomy. Verbal metaphors characterizing Reality include “real-life”, “everydayness”, “natural” or “animals”. Respondents use natural and solid materials like tree bark, cork, moss, nuts, flowers, or stones as non-verbal metaphors expressing Reality. The materials have natural earth shades like brown, green, or yellow and red ochre. These natural and robust materials primarily stimulated respondents’ vision, touch and smell. Some respondents further emphasize Reality by integrating auditory stimuli like the natural sounds of birds, rain, or waterfalls.

Respondents associate brand Reality with tradition and structure since the company has a long history and does business in a structured way. Verbal metaphors like “tradition as anchor”, “rooted in the past” or “structured and geometric forms” exemplify these meanings. In order to convey this structure respondents arrange their sculptures in a geometric and symmetrical manner. One respondent explains: “These stones are not randomly arranged but there is somehow a structure because the products are not only artful but also structured”. Respondents also associate Reality with simplicity (especially with regard to product design) and verbally express this meaning with words such as “plain” “simple” or “minimalism”. Simple structures (e.g., squares, lines) and down-to-earth materials (e.g., stones, wood, metal) non-verbally represent simplicity. Several respondents mention that simplicity contradicts the meanings of opulence and heavy product designs. One respondent explains “For me the brand always tries to overstate and pimp its appearance. Its design looks somehow big, clumsy and overwhelming. That’s why I used this big, clumsy and glittering stone in the middle of my sculpture”. This meaning adds to the brand’s uselessness. One respondent expresses this uselessness via the non-verbal metaphor slime that constitutes the center of her sculpture. Vision, touch, and smell are the primary senses the elicitation of various meanings relating to brand Reality involves.

The dichotomy between Fantasy World and Reality characterizing respondents’ embodied brand knowledge constitutes a core-periphery metaphor (cf. Johnson, 1987): some things, persons or experiences are more central to human beings (core) while other things disappear in a perceptual horizon (periphery). The same core-periphery structure emerges in the verbal and non-verbal data. Fantasy World constitutes the core while Reality resides in the surrounding periphery: “The center of my sculpture describes this quasi world, this glamor, glitter world; somehow a little bit this dream world. In the background you can see the more real, traditional and robust world surrounding this dream world”.

## 7. Discussion and managerial implications

This article approaches brand knowledge retrieval from an embodied cognition perspective and introduces multi-sensory sculpting (MSS) as a research method to retrieve embodied brand knowledge. The main assumption underlying MSS is that consumers’ conscious and non-conscious multi-sensory brand experiences lead to embodied brand knowledge. Retrieving embodied brand knowledge requires stimulating those senses brand experience originally involved and allowing consumers to metaphorically express their mental brand images. MSS provides respondents with multi-sensory materials that support them in transforming brand-related embodied knowledge into non-verbal metaphors and related verbal explanations. In doing so, MSS accounts for the fact that multiple senses operate in concert and that retrieving consumers’ knowledge requires multi-sensory integration.

Compared to existing brand knowledge retrieval methods, MSS’s major strength is its ability to account for the predominantly non-conscious and multi-sensory nature of embodied brand knowledge. Quantitative approaches to embodied brand knowledge retrieval (e.g., fixed-point scales) (e.g., Rosa & Malter, 2003) generate mainly verbal and explicit data (Woodside, 2006). Verbo-centric, qualitative approaches (e.g., storytelling) (e.g., Schembri, 2009) might activate multi-sensory memory imprints, but do not support the expression of non-conscious, embodied knowledge (Koll et al., 2010). Similarly, observation techniques (e.g., Joy & Sherry, 2003) mainly explore individuals’ explicit, non-verbal brand knowledge (Woodside, 2006). Projective techniques such as ZMET or collage technique (e.g., Zaltman, 1997) tap deeper into consumers’ non-conscious, embodied minds but typically only stimulate vision while neglecting other senses. None of these research methods allows investigating embodied brand knowledge as intensely as MSS does.

While demonstrating several strengths MSS has limitations of its own: (a) The MSS procedure (toolkit development, workshop execution, interview, transcription, and data analysis) is labor, time and cost intensive; (b) In developing the MSS toolkit, researchers need to assure the inclusion of a broad array of materials that have the potential to stimulate various senses with different individuals; (c) Well-trained interviewers need to support respondents in verbally expressing their embodied knowledge; (d) Data analysis requires researchers trained in multi-layered metaphor analysis; (e) Since MSS is of exploratory nature and relies on relatively small sample sizes a generalization of results is not possible. To reach validity and reliability MSS follows qualitative principles (e.g., triangulation of methods and across researchers) literature proposes (cf. Woodside, 2004); (f) So far, MSS investigates embodied brand knowledge on an individual level. This procedure allows respondents to elicit the meanings they personally ascribe to the brand without experiencing social influence from other individuals. Social desirability bias is low (cf. Rook, 2006). However, “embodied and imaginative structures of meaning have been shown to be shared” (Johnson, 1987, p. 174). Retrieving socially generated and shared embodied brand knowledge might therefore be easier in groups. The group setting may though provoke group dynamics that increase social desirability bias (cf. Rook, 2006).



Researchers need to be sensitive to these group dynamics and eventually serve as moderators to avoid or damp dominant individual behavior. Future research should gain a deeper understanding of the dynamics characterizing group level MSS processes.

The managerial applicability of MSS is broad. MSS data can be a valuable starting point for strategic branding processes identifying a brand's current and intended meaning and delivering input for continuous brand monitoring. MSS suits any brand and can be performed on an individual as well as on a group level with internal and external brand stakeholders. Depending on the scope of the study, brand management might choose individual level sculpting to gain deep insights into individual stakeholders' brand knowledge or group level sculpting to facilitate group discussion and joint brand development. While potentially suffering from social desirability bias, group sculpting might facilitate joint decisions and evaluations regarding brands by working with physically represented symbolic elements that can be (re-)moved. The resulting brand sculpture can serve as a strong multi-sensory symbol reminding respondents of their decisions. Additionally, multi-sensory metaphors and related meanings provide a good starting point for designing multi-sensory brand-related stimuli (e.g., stores, products). These stimuli can provide consumers and other stakeholders with multi-sensory brand experiences that ideally support the development of intended embodied brand knowledge.

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