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The effect of sensory brand experience and involvement on brand equity directly and indirectly through consumer brand engagement

Abstract

Purpose – This study examines the effect of sensory brand experience and involvement on brand equity directly and indirectly through cognitive, emotional and behavioral consumer brand engagement.

Design/methodology/approach – A survey was administered to the customers of a Finnish tableware brand using relevant Facebook channels. A total of 1385 responses were analyzed using partial least squares structural equation modeling.

Findings – The empirical findings suggest that both involvement and sensory brand experience are directly related to the three facets of consumer brand engagement. Further, involvement, sensory brand experience and consumer brand engagement jointly explain more than 50 % of the variance in brand equity. In addition, the results reveal that emotional engagement was the most influential factor in determining consumers' overall engagement level.

Research limitations/implications – The framework should be tested in other contexts and the application of longitudinal research setting is encouraged.

Practical implications – The study highlights not only the importance of holistic consumer brand engagement management but also the necessity to manage sensory aspects of consumer-brand interactions. In this way, managers can build sustainable consumer-brand relationships.

Originality/value – The nomological network of consumer brand engagement is not well-known. This study integrates two central constructs (sensory brand experience and brand

equity) with the concept of consumer brand engagement and examines their effects on brand equity both directly and indirectly through cognitive, emotional and behavioral consumer brand engagement.

Keywords Consumer brand engagement, Brand equity, Sensory brand experience, Formative measurement, Brand relationship

Introduction

In the marketing literature, the attention paid to consumer brand engagement (CBE) has been rapidly increasing (e.g., Brodie *et al.*, 2011; Hollebeek *et al.*, 2016; Pansari and Kumar, 2016). In fact, the Marketing Science Institute (MSI) has identified consumer engagement as a key research priority (MSI, 2014). In general, the concept is viewed as a strategic imperative that directly influences firm performance (Kumar and Pansari, 2016; Pansari and Kumar, 2016). Further, Dwivedi (2015) found that the substantial influence of CBE on consumer loyalty goes beyond the effects of perceived quality, value and satisfaction. Thus, in addition to being interesting from the theoretical perspective, it is evident that the concept also has important managerial implications.

Although there are various conceptualizations of engagement (e.g., Bowden, 2009; Calder *et al.*, 2009; Sprott *et al.*, 2009; van Doorn *et al.*, 2010; Kumar and Pansari, 2016), many studies view engagement as a multi-dimensional phenomenon that consists of cognitive, emotional and behavioral dimensions (e.g., Brodie *et al.*, 2011; Hollebeek *et al.*, 2014; Dwivedi, 2015). In particular, Hollebeek *et al.* (2014, p. 149) define CBE as “a consumer’s positively valenced brand-related cognitive, emotional and behavioral activity during or related to focal consumer/brand interactions”. Unfortunately for marketing managers, the field remains in its infancy; despite recent efforts to extend the nomological network of cognitive, emotional and

behavioral CBE (e.g., Hollebeek *et al.*, 2014; Leckie *et al.*, 2016), there is still much to be known about their antecedents and outcomes (Brodie *et al.*, 2011).

The state of affairs suggests a fruitful means to extend our knowledge in theoretical terms and to acquire important managerial insight by examining the nomological network of cognitive, emotional and behavioral CBE. Similarly to engagement, researchers have strongly started to emphasize the vital role of experiences in marketing (e.g., Brakus *et al.*, 2009; Lemon and Verhoef, 2016; Verhoef *et al.*, 2009). Still, the concepts of brand experience and brand engagement remain largely unconnected. In general, brand experience is defined as “sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a brand’s design and identity, packaging, communications, and environments” (Brakus *et al.*, 2009, pp. 52). One central difference between these two concepts seems to be that experiences do not presume a motivational state (Brakus *et al.*, 2009), whereas CBE is a motivational construct (Hollebeek, 2011b; Hollebeek *et al.*, 2014). However, distinguishing them is difficult in practice because they both have cognitive, affective and behavioral dimensions and the measurement items are almost identical (see Brakus *et al.*, 2009; Hollebeek *et al.*, 2014). This suggests that there is likely an overlap between these two constructs. For this reason, focusing on sensory brand experience, a dimension not associated with CBE (Brodie *et al.*, 2011; Hollebeek, 2011a; Hollebeek *et al.*, 2014), seems reasonable. From managerial perspective, this is relevant because it is known that multi-sensory brand experiences can be used to build customer equity (Hultén, 2011), that is, the value of customer to a specific company (Leone *et al.*, 2006).

Both academics and practitioners should also be interested in consequences of CBE beyond brand usage intent (Hollebeek *et al.*, 2014) and brand loyalty (Leckie *et al.*, 2016). In particular, brand equity (e.g., Leone *et al.*, 2006; Yoo *et al.*, 2000; Keller, 1993) is considered

as a vital element of market success and is thus of high relevance to brand managers. For instance, given that brand equity concerns a different consumer response to branded than to unbranded products (e.g., Keller, 1993; Yoo and Donthu, 2001; Ailawadi *et al.*, 2003), brand equity can be viewed as one of the most valuable brand-related assets (Keller, 1993). By examining brand equity as a consequence of CBE, both managers and academics are better able to evaluate the importance of CBE.

The paper is arranged as follows: first, the theoretical framework and the related hypotheses are presented. Then, we describe our research methods after which we present the empirical results. The final section discusses the implications for academics and practitioners, the study's limitations and directions for future research.

Theoretical background

The theoretical discussion is based on three broader conceptual streams: the service-dominant logic, consumer culture theory and relationship marketing (cf. Hollebeek *et al.*, 2014). The service dominant logic views consumers as active co-creators of value (Vargo and Lusch, 2004, 2008) and consumer culture theory emphasizes the experiential aspects of consumption (Arnould and Thompson, 2005). In addition, relationship marketing with customer engagement incorporated views experiences as a mean for relationship management (Vivek *et al.*, 2012). These conceptual underpinnings help to understand the proposed research model in greater depth.

The investigated research model includes six measured variables in total (Figure 1). We examine the effect of personal involvement on CBE dimensions, namely cognitive processing (H1a), affection (H1b) and activation (H1c), and on brand equity (H2). Similarly, we investigate the influence of sensory brand experience on cognitive processing (H3a), affection (H3b), activation (H3c) and brand equity (H4). Weights (w_1 , w_2 and w_3) represent

the importance of CBE dimensions in formation of the CBE construct. Finally, we examine the impact of formatively measured CBE on brand equity (H5).

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Nature of consumer brand engagement

CBE is based on interactions and the subsequent interactive experiences between the engagement subject and the engagement object (e.g., Hollebeek, 2011a, 2011b; Dwivedi, 2015). Generally, the marketing literature focuses on the consumer (e.g., Hollebeek *et al.*, 2014; Dwivedi, 2015) or the customer (e.g., Brodie *et al.*, 2011; Vivek *et al.*, 2012; De Vries and Carlson, 2014) as the subject of engagement. However, engagement objects may vary. In particular, consumer engagement has been studied in the context of brands (e.g., Hollebeek *et al.*, 2014; Dwivedi, 2015), whereby the term “consumer brand engagement” has been adopted.

As previously mentioned, recent studies (e.g., Hollebeek *et al.*, 2014; Hollebeek and Chen, 2014; Dwivedi, 2015) emphasize the multidimensional nature of CBE. Although different dimensions have been proposed to capture the holistic nature of the concept (e.g., Hollebeek *et al.*, 2016; Vivek *et al.*, 2014), CBE is generally believed to consist of cognitive, emotional and behavioral dimensions (e.g., Hollebeek *et al.*, 2014; Hollebeek and Chen, 2014; Dwivedi, 2015). The relative importance of these engagement dimensions may vary according to context (Brodie *et al.*, 2011). Hollebeek *et al.* (2014) characterized CBE as the total cognitive, emotional and behavioral activity during/related to the interaction with engagement object and constructed a measurement scale for CBE. This type of activity/investment focus on interactions is adopted by many other studies (e.g., Hollebeek, 2011a, b; Hollebeek *et al.*, 2016). Hollebeek *et al.* (2014, p. 154) referred to these dimensions as cognitive processing, affection and activation:

Cognitive processing: “a consumer's level of brand-related thought processing and elaboration in a particular consumer/brand interaction”.

Affection: “a consumer's degree of positive brand-related affect in a particular consumer/brand interaction”.

Activation: “a consumer's level of energy, effort and time spent on a brand in a particular consumer/brand interaction”.

Similar dimensions can be identified in the literature. For example, immersion (e.g., Hollebeek, 2011b; Hollebeek and Chen, 2014), absorption (e.g., Dessart *et al.*, 2015; Dwivedi, 2015; Hollebeek, 2011a) and attention (e.g., Dessart *et al.*, 2015, 2016) are similar to cognitive processing. Passion (e.g., Hollebeek, 2011b; Hollebeek and Chen, 2014; Merrilees, 2016) and dedication (e.g., Dwivedi, 2015) are unlikely to differ significantly from affection. Finally, activation (e.g., Hollebeek *et al.*, 2014; Hollebeek, 2011b) resembles vigor (e.g., Dwivedi, 2015).

As an emerging concept, consumer engagement has been conceived of in several other ways (Table I). For example, a number of scholars (e.g., Sprott *et al.*, 2009; Goldsmith *et al.*, 2011, 2014) focus on the propensity of consumers to include brands in their self-concepts (brand engagement in self-concept). However, this approach limits the interactive nature of engagement (Hollebeek *et al.*, 2014). Calder *et al.* (2009) view engagement as an overall set of experiences (see also Vernuccio *et al.*, 2015). However, they conducted their study in the context of websites, not in the brand context. In addition, experience and engagement can be considered to represent different entities (Hollebeek *et al.*, 2014; Brakus *et al.*, 2009). We consider the approach represented, for instance, by Hollebeek and Brodie the most developed and thus adopt their concept of CBE.

---- INSERT TABLE I ABOUT HERE ----

Nature of brand equity

Brand equity can be viewed as the added value that is linked to a specific product by the consumer's thoughts, words and actions (Leone *et al.*, 2006). Keller (1993) stated that customer-based brand equity is associated with situations in which customers hold favorable, strong and unique brand associations in memory. Thus, products with high levels of brand equity would be considerably less valuable without the brand name. Many researchers (e.g., Ailawadi *et al.*, 2003; Keller, 1993) define brand equity as the difference in effects between a branded and an unbranded product. In particular, Yoo and Donthu (2001, p. 1) define brand equity as the "consumers' different response between a focal brand and an unbranded product when both have the same level of marketing stimuli and product attributes". Although brand equity (referred to as overall brand equity by Yoo and Donthu, 2001) can be operationalized as a tendency to choose branded product over similar unbranded product, customer-based brand equity consists of four components: loyalty, brand awareness, perceived quality and brand associations (Yoo and Donthu, 2001).

Role of personal involvement

Involvement has received attention as a required antecedent of CBE (e.g., Dwivedi, 2015; France *et al.*, 2016; Hollebeek, 2011a; Hollebeek *et al.*, 2014). Three types of involvement can be identified: (1) *situational involvement* is evoked in a particular situation; (2) *enduring involvement* relates to inherent and ongoing concern with an object; (3) *response involvement* refers to the extent of the decision-making process (Bloch and Richins, 1983; Zaichkowsky, 1985; Houston and Rothschild, 1978). However, the general view of involvement emphasizes the relevance or the importance of the object (e.g., Greenwald and Leavitt, 1984; Petty *et al.*,

1983; Zaichkowsky, 1985, 1994). For example, Zaichkowsky (1985) defines involvement as “a person’s perceived relevance of the object based on inherent needs, values, and interest”.

The level of consumer motivation increases as a function of felt involvement (Bloch *et al.*, 1986; Zaichkowsky, 1984, 1994). If the object (e.g., brand) is relevant to the consumer, he or she is likely to exert greater cognitive efforts in analyzing the object-related situations and thus analyze them in greater detail (Greenwald and Leavitt, 1984; Celsi and Olson, 1988). Because consumer attention is focused on object-related information, the number of object-related thoughts and inferences relative to the number of overall thoughts is larger (Celsi and Olson, 1988). This phenomenon reflects a deeper level of object-related cognitive elaboration (Hollebeek *et al.*, 2014). Therefore, we propose the following hypothesis:

H1a. Personal involvement is positively related to cognitive processing.

Emotions arise from the cognitive appraisal of events or one’s own thoughts (e.g., Roseman, 1991; Smith and Ellsworth, 1985; Bagozzi *et al.*, 1999). Thus, positive emotions are responses to the favorable outcomes that consumers are motivated to achieve (Roseman, 1991; Bagozzi *et al.*, 1999; Johnson and Stewart, 2005), such as experiencing fun and pleasure, in addition to task-related objectives in the case of highly involved consumers (Mathwick and Rigdon, 2004; Bloch *et al.*, 1986). Consequently, a situation must be relevant to the consumer so that an emotional response may occur (Bagozzi *et al.*, 1999). If the outcome of an event is congruent with the consumer’s desires or needs, the arising positive emotions are stronger for consumers with high personal involvement (Nyer, 1997).

Therefore, we propose the following hypothesis:

H1b. Personal involvement is positively related to affection.

Highly involved consumers are motivated towards the object (e.g., Zaichkowsky, 1985, 1994), and the level of an individual's motivation is vital in determining the level of activation (Kroeber-Riel, 1979). For instance, Mittal and Lee (1989) relate product involvement to the interest in possessing the specific product. Thus, because consumers are involved with a specific object (e.g., brand), they are willing to invest more effort in it. For example, Clarke and Belk (1978) found that more stores were visited by shoppers searching for high-involvement products than for low-involvement products. In addition, Celsi and Olson (1988) found that the higher the felt involvement with product information was, the more time consumers spent attending to the product information. Thus, we propose the following hypothesis:

H1c. Personal involvement is positively related to activation.

Given that highly involved consumers are motivated towards the object due to the increased importance or relevance (Zaichkowsky, 1985, 1994), personal involvement should also be reflected in increased levels of brand equity. Compared with CBE, involvement is not based on an interactive relationship with the object (Brodie *et al.*, 2011). Thus, involvement represents a more passive phenomenon. However, involved consumers should respond differently to similar branded and unbranded products, which is commonly used as a sign of brand equity (e.g., Yoo and Donthu, 2001). Quester and Lim (2003) found that interest and pleasure, two subcomponents of product involvement that were merged into one factor, had a positive effect on brand loyalty. This outcome is particularly interesting for this study because brand loyalty can be considered one of the components of brand equity (Aaker, 1991). However, such effects might be mediated through other constructs. For instance, Hollebeek *et al.* (2014) found that CBE fully mediates the effect of personal involvement on purchase intention. Nevertheless, we state the following hypothesis:

H2. Personal involvement is positively related to brand equity.

Role of sensory brand experience

Brakus *et al.* (2009) divided brand experience into four dimensions: intellectual, affective, behavioral and sensory experience. Given that consumers always use their senses to perceive products (Hekkert and Schifferstein, 2008), the sensory dimension can be viewed as a central dimension of brand experience. Sensory brand experience can be defined as “sensations [...] evoked by brand-related stimuli that are part of a brand’s design and identity, packaging, communications, and environments” (Brakus *et al.*, 2009, p. 52). These sensations may be related to any of the five senses: smell, sound, sight, taste and touch (Hultén, 2011; Fenko *et al.*, 2010). The different senses specialize in different types of information (Schifferstein, 2010). However, the literature (e.g., Bahrck and Lickliter, 2000; Ernst and Bühlhoff, 2004) suggests that the larger the number of senses that are stimulated, the stronger and richer the experiences or other outcomes are. However, the importance of different senses may vary during different periods of product use. During the purchase event, vision is the dominant sensory modality, whereas touch and audition become more important during later stages (Fenko *et al.*, 2010).

Object-related (e.g., brand) sensory information can capture the individual’s attention and block other stimuli from entering the individual’s mind (Biocca and Delaney, 1995; Spangenberg *et al.*, 1996), which supports object-related thought processing and elaboration. The breadth and depth of the sensory information affect the individual’s plunging into something, which results in immersion (Shih, 1998; Carù and Cova, 2006). Therefore, consumers may perceive that time passes faster if they are, for instance, in a scented environment (Spangenberg *et al.*, 1996) or hear a certain type of music (Kellaris and Altsech, 1992). In addition, these types of sensory expression can be a source of inspiration (Hultén,

2011) and thus increasing the level of brand-related cognitive processing. Based on these findings, we propose the following hypothesis:

H3a. Sensory brand experience is positively related to cognitive processing.

Sensory stimulation may provide aesthetic pleasure and excitement (Schmitt, 1999), and thus can be used to affect consumer emotional states (Hultén, 2011). Holbrook and Hirschman (1982) suggested that consumption partly relies on consumer fantasies, feelings and fun and that multisensory aspects should be used to understand enjoyment. In fact, Baumgartner *et al.* (2006) found that congruent visual and musical emotional stimuli automatically evoke strong emotional feelings and experiences. Beckman *et al.* (2013) found that sensory experience was a strong predictor of an individual's place dependence, which provides emotional benefits to the individual. In addition, scents and music, for instance, may affect consumer affects (Ellen and Bone, 1998; Bruner, 1990). Therefore, we propose the following hypothesis:

H3b. Sensory brand experience is positively related to affection.

If consumers experience sensations, it is likely that they are willing to receive such stimulation again (Brakus *et al.*, 2009). Therefore, consumers are encouraged to invest their behavioral inputs in the specific relationship. For instance, Milliman (1982, 1986) found that music tempo variations may affect behavioral responses, such as the length of stay and the amount of purchases. Similarly, Spangenberg *et al.* (1996) found that the presence of ambient scent may increase various approach behaviors. In addition, Barnes *et al.* (2014) studied sensory brand experience in the tourism context and found that sensory brand experience had a positive impact on revisit intention. Accordingly, we propose the following hypothesis:

H3c. Sensory brand experience is positively related to activation.

Generally, brand experience has been empirically linked to brand loyalty (e.g., Brakus *et al.*, 2009), a subcomponent of brand equity (Aaker, 1991). The holistic nature of experiences makes it difficult for competitors to mimic them (Berry *et al.*, 2002; Gentile *et al.*, 2007), particularly in terms of sensory experiences that relate to five senses. Consequently, sensory brand experiences can form brand associations (Keller, 1993), which is a subcomponent of brand equity (Aaker, 1991). These sensory experiences help differentiate the brand in the minds of consumers (Hultén, 2011). In addition, consumers must re-interact with the same brand if they want to re-experience these experiences, which creates a motivational force towards the brand. Therefore, we propose the following hypothesis:

H4. Sensory brand experience is positively related to brand equity.

Consumer brand engagement and brand equity

Generally, loyalty and purchase intention are identified as consequences of CBE (e.g., Dwivedi, 2015; Hollebeek *et al.*, 2014). Highly engaged consumers are holistically invested in the brand interactions (Hollebeek, 2011b; Hollebeek and Chen, 2014) and thus develop a deep bond with the brand (Dwivedi, 2015). Consequently, they are likely to have unique brand associations (Aaker, 1991; Keller, 1993). Consumers also tend to maintain these types of rewarding relationship (Homans, 1958). In addition, the benefits that CBE provides are linked to a specific brand (e.g., Brodie *et al.*, 2011; Dwivedi, 2015), which should inevitably increase brand equity. Therefore, we propose the following hypothesis:

H5. Consumer brand engagement is positively related to brand equity.

Methods

Data collection

The data were collected through an online survey targeted at customers of a Finnish tableware brand. Data collection platforms included the Facebook page of the brand and other Facebook groups in which the brand's customers participate. The data were gathered during summer 2015. The survey items were translated by a native Finnish speaking researcher and back-translated by another Finnish speaking researcher.

In total, 1,385 responses were received (5 responses were eliminated because the respondents were younger than 18 years). The great majority of the respondents were female (95.3 %). We later established partial measurement invariance (Henseler *et al.*, 2016; $p > 0.05$) and conducted group comparison using PLS-MGA (Henseler *et al.*, 2009). We found that the structural estimates do not differ between female and male ($p > 0.05$), meaning that the large proportion of women does not bias the results. The age groups represented in the sample varied as follows. A total of 12.7% were between 18 and 25 years. A total of 24.7% were between 26 and 35 years. A total of 21.4% were between 36 and 45 years. A total of 23.3% were between 46 and 55 years, and 17.8% were 56 years or older. Further, the relationship duration with the brand varied as follows: less than 6 months (2.1 %), between 6 months and 4 years (9.9 %), between 5 and 20 years (47.1 %) and over 20 years (40.9 %). To evaluate nonresponse bias, a comparison of early ($N = 400$) and late respondents ($N = 400$) was conducted. The Mann-Whitney U test did not reveal any statistically significant differences between the two groups at $p < 0.05$, which suggests that nonresponse bias is not an issue.

Measurement

The measures (Appendix) were based on the following studies: personal involvement (Zaichkowsky, 1994; 10 items), sensory brand experience (Brakus *et al.*, 2009; 3 items), CBE dimensions (Hollebeek *et al.*, 2014; 10 items) and brand equity (Yoo and Donthu, 2001; 4 items). The selection of appropriate measurement model (reflective or formative) is critical

because misspecification may severely bias the structural estimates (Jarvis *et al.*, 2003). The application of the reflective measurement model in the context of engagement seems to be widespread (e.g., Calder *et al.*, 2009; Dwivedi, 2015). Given the strong focus on the dimensional nature of engagement (e.g., Hollebeek *et al.*, 2014; Brodie *et al.*, 2011), we find it uncomfortable to apply such reflective models (see selection criteria from Jarvis *et al.*, 2003) in this context and instead apply the formative measurement model.

Empirical support for the formative measurement model was examined using confirmatory tetrad analysis (PLS-CTA) (see Gudergan *et al.*, 2008). We obtained the composite scores for different dimensions and used them as manifest variables. Because CBE had only three indicators, we followed the advice of Gudergan *et al.* (2008) and added one unrelated indicator. An indicator from the dependent variable with the highest cross loading (0.628) was selected. As in all evaluations of statistical significance in this study, the statistical significance of the results was tested using a bootstrapping procedure (Henseler *et al.*, 2009) with 5,000 sub-samples. The Bonferroni-adjusted 95 % bias-corrected bootstrap (two-tailed) confidence interval limits do not include zero ([0.232; 0.489]; [0.193; 0.439]) and thus support the second-order formative measurement.

Assessment of common method variance

Because of the applied data-gathering method, common method variance may influence the structural estimates of the model (Podsakoff *et al.*, 2003). To mitigate the effect of common method variance, the respondents were allowed to answer anonymously, the questionnaire was kept short (44 items) and the items were formulated as unambiguously as possible. We used Harman's (1976) single-factor test to assess the effect of common method variance on the study results. The single factor, extracted using principal axis factoring with no rotation, explained only 41.7 % of the overall variance. Given that the one-factor solution does not

account for the majority of the variance, common method variance is unlikely to bias the path model results (Podsakoff *et al.*, 2003). Further, following Podsakoff *et al.* (2003), a PLS model with a common method factor with indicators that included all the principal constructs was run, and each indicator's variance was substantively explained by the principal construct. This analysis shows that average variance substantively explained the variance of the indicators (0.720), while the average method-based variance was 0.005. Therefore, common method variance is unlikely to be a serious concern in this study.

Results

The structural model (Figure 1) was estimated using partial least squares structural equation modeling with SmartPLS 3.2 (Ringle *et al.*, 2015). We find this approach particularly applicable because of the theory-developing nature of this research and the necessity of applying a formative measurement model (Hair *et al.*, 2011).

Assessment of reflective measurement models

One indicator was removed due to low loading (< 0.4). The remaining loadings were high and significant ($p < 0.01$). Only the loading of the seventh indicator of personal involvement (0.693) was lower than 0.7. In addition, the composite reliabilities and average variance extracted (AVE) values were over the suggested levels of 0.7 and 0.5, respectively (Hair *et al.*, 2011) (Appendix). Thus, convergent validity was established.

Discriminant validity was first evaluated through indicator cross loadings, which revealed that no indicator loaded higher on any opposing construct. Second, we applied Fornell and Larcker's (1981) criterion: the square root of AVE for each reflective construct was larger than the correlation between the latent variable and all other reflectively measured constructs (Table II). However, the correlation between affection and the formatively measured engagement construct exceeded the square root of AVE. This outcome was not unexpected

and not critical in higher-order formative models (Hair *et al.*, 2013). Therefore, discriminant validity was established.

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Assessment of formative measurement model

Excessive collinearity between indicators is problematic in formative measurement models because it makes it difficult to separate the distinct effect of a particular indicator on a dependent variable (Diamantopoulos and Winklhofer, 2001). The VIF values for the different dimensions of CBE ranged from 1.393 to 2.214. They were substantially below the critical level of 10 (Henseler *et al.*, 2009), which suggests that multicollinearity is not a severe issue in this study. In addition, the weights of cognitive processing ($w_1 = 0.150$), affection ($w_2 = 0.592$) and activation ($w_3 = 0.431$) were all significant ($p < 0.01$). Thus, we can proceed with the proposed formative measurement model.

Assessment of structural model

Because the model includes dependent formative constructs, we adopted the repeat indicator approach with mode B and the path-weighting scheme, as suggested by Becker *et al.* (2012). The analysis of the structural relations reveals that personal involvement was directly associated with all dimensions of CBE, which supports H1a-c (Table III). Personal involvement was also positively related to brand equity, which supports H2. Similarly, sensory brand experience exhibited a positive impact on all CBE dimensions, which supports H3a-c. However, the total variance explained (R^2) was surprisingly low in activation. In addition, sensory brand experience positively influenced brand equity, which supports H4. Finally, CBE was connected with brand equity, which supports H5. In addition, when each CBE dimension was directly connected with brand equity, rather than via the formatively measured CBE construct, affection ($\beta = 0.237$) and activation ($\beta = 0.272$) exhibited a positive

impact ($p < 0.01$), whereas cognitive processing ($\beta = 0.015$) had no effect. In this model, the effects of personal involvement ($\beta = 0.112$) and sensory brand experience ($\beta = 0.276$) on brand equity were also both significant ($p < 0.01$).

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We also assessed the indirect and mediation effects. The mediation analysis was conducted through assessing the significance of the indirect effect via the mediator using the bootstrapping procedure, as suggested, for example, by Preacher and Hayes (2008) and Zhao *et al.* (2010). The indirect effect of personal involvement on brand equity via CBE was 0.155 ($p < 0.01$) (a total effect of 0.246, $p < 0.01$). The VAF value of 0.630 indicates partial mediation (Hair *et al.*, 2013). Similarly, sensory brand experience exhibited an indirect effect of 0.184 ($p < 0.01$) (a total effect of 0.436, $p < 0.01$). The VAF value of 0.422 indicates partial mediation (Hair *et al.*, 2013).

Discussion

This study extends the nomological network of CBE by integrating two constructs into it: sensory brand experience and brand equity. Sensory brand experience exhibited a positive impact on the cognitive (cognitive processing), emotional (affection) and behavioral (activation) dimensions of CBE. This topic is particularly intriguing because the relationship between experience and engagement is controversial (Hollebeek *et al.*, 2014; Calder *et al.*, 2009). However, the joint capability with personal involvement to explain variance in activation was weak. Given the strong focus on experiences in the modern marketing (e.g., Pine and Gilmore, 1998; Brakus *et al.*, 2009), this can be considered surprising. However, other types of experiences might be more capable of predicting consumer behavior (see Brakus *et al.*, 2009; Calder *et al.*, 2009). Therefore, other drivers of activation should be considered. Sensory brand experience also directly influenced brand equity. Consequently,

these findings strengthen our understanding of sensory approaches as a vital tool in brand management (e.g., Hultén, 2011; Lindstrom, 2005; Beckman, 2013).

This study also empirically identified brand equity as an outcome of CBE. In particular, this is intriguing because brand equity can be viewed as one of the most valuable brand-related assets (Keller, 1993). Consequently, the results support the pivotal role of CBE in modern marketing. Previous studies suggest that CBE exhibits a positive effect on brand usage intent (Hollebeek *et al.*, 2014) and brand loyalty (Leckie *et al.*, 2016). Therefore, our study provides more insight regarding the types of outcomes CBE has an effect on. In addition, we found that affection was the most important dimension in determining the overall engagement level, which highlights the central role of emotions in this context. However, when the effects of different CBE dimensions on brand equity were directly modeled rather than through the formative engagement construct, the effect of cognitive processing was not significant. This result resembles that of Hollebeek *et al.* (2014) in terms of the insignificant impact of cognitive processing on brand usage intention in the social media setting (see also Leckie *et al.*, 2016). Naturally, this outcome raises the question of the scale's functionality; one reason for the result might be that cognitive processing was relatively highly correlated with affection. Researchers might wish to reassess the scale and compare alternative scales (e.g., Dwivedi, 2015; Vivek *et al.*, 2014). Alternatively, cognitive processing simply does not influence these types of outcomes.

The study also offers several other theoretical contributions. We found that personal involvement had an indirect impact on brand equity via CBE. However, it also directly influenced brand equity (partial mediation). In their study, Hollebeek *et al.* (2014) found complete mediation in terms of the relationship between personal involvement, CBE and brand usage intention. Given that brand equity consists of loyalty, brand awareness, perceived quality and brand associations (Yoo and Donthu, 2001), personal involvement has

likely influenced other components than loyalty in this case. For instance, the emotional nature of involvement (Zaichkowsky, 1994) may bias consumer's quality evaluations (Bagozzi *et al.*, 1999). It is also possible that affection insufficiently captures more intense emotions, such as passion (e.g., Hollebeek, 2011b; Hollebeek and Chen, 2014), leading to a spurious significant direct effect of involvement in the tableware context (Hollebeek *et al.*, 2014 examined social media platforms). We also demonstrate that considering the definition and operationalization of CBE provided by Hollebeek *et al.* (2014) researchers should apply formative measurement instead of the commonly used reflective measurement if they wish to construct a higher-order model. Given that misspecification may severely bias the structural estimates (Jarvis *et al.*, 2003), this finding is particularly important and provides guidelines for future studies.

Managerial implications

This study has important implications for brand managers who aim to holistically engage consumers and build brand equity. Brand equity is essential in building the long-term success of firms (Leone *et al.*, 2006). Given the connection between CBE and brand equity, managers should focus on tactics and strategies that engage consumers. In particular, increasing the consumer's emotional activity and activation during the consumer/brand interaction are the two most important dimensions when the overall engagement levels are assessed.

Consequently, managers should pay attention to both experiential and behavioral aspects of CBE. The results also suggest that sensory brand experience provides managers a way to build brand equity. Thus, brand managers should consider how they can harness five human senses to effectively co-create powerful sensations with their customers. Finally, managers may want to consider leveraging consumer's involvement with the brand although its direct impact is relatively small.

The dimensions of CBE (i.e., cognitive processing, affection and activation) can be affected by enhancing the level of personal involvement and co-creating sensory brand experiences. In particular, strengthening personal involvement and sensory brand experience is an effective way to enhance the level of emotional engagement. However, managers need to consider other means to influence the level of activation because the two constructs did not have a particularly strong impact on activation; managers should evaluate the relevance of other types of experiences, such as affective experience, in driving behavioral engagement.

Limitations and future research

This study has some limitations. First, the study was conducted in the context of a single Finnish tableware brand. Thus, the results may vary in different contexts, such as in other industries and cultures. Second, brand equity was considered as an outcome of CBE. However, engagement is a process (e.g., Brodie *et al.*, 2011). Given that increased brand equity is also valuable to the customer (Aaker, 1991; Yoo *et al.*, 2000), future studies may highlight its role as an antecedent of engagement. Thus, to achieve a better understanding of the role of CBE, longitudinal studies would be important. Given that brand equity can be divided into different components (Yoo and Donthu, 2001), researchers might want to examine the different impact of consumer engagement on these components to derive additional insight. In addition, three-dimensional engagement studies are primarily qualitative, which calls for quantitative perspective to the CBE studies. Generally, understanding the different roles of engagement dimensions in various contexts requires additional quantitative studies.

In a more general level, researchers are encouraged to examine experience-engagement dichotomy to a greater extent in the future. Although there are some minor conceptual differences proposed between the two concepts (Hollebeek *et al.*, 2014), the measurement

scales for respective dimensions of experience (e.g., Brakus *et al.*, 2009) and engagement (e.g., Hollebeek *et al.*, 2014) are very similar in practice. For this reason, academics should be very accurate when defining these two concepts and creating measurement items for them. Researchers might also wish to evaluate different CBE measurement scales (e.g., Dessart *et al.*, 2016; Dwivedi, 2015; Vivek *et al.*, 2014) so that it could be better understood, how well, if at all, different consumer engagement studies can be compared.

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Table I Definitions of consumer brand engagement and its related terms

Author(s)	Term	Definition
Bowden (2009, p. 65)	Engagement	[A] psychological process that models the underlying mechanisms by which customer loyalty forms for new customers of a service brand as well as the mechanisms by which loyalty may be maintained for repeat purchase customers of a service brand.
Calder <i>et al.</i> (2009, p. 322)	Consumer engagement with website	[A] collection of experiences with the site.
Higgins and Scholer (2009, p. 102)	Engagement	Engagement is a state of being involved, occupied, fully absorbed, or engrossed in something—sustained attention.
Sprott <i>et al.</i> (2009, p. 95)	Brand engagement in self-concept	[A]n individual difference representing consumers' propensity to include important brands as part of how they view themselves.
van Doorn <i>et al.</i> (2010, p. 253)	Customer engagement behavior	[T]he customers' behavioral manifestation toward a brand or firm, beyond purchase, resulting from motivational drivers.
Brodie <i>et al.</i> (2011, p. 260)	Customer engagement	[A] psychological state that occurs by virtue of interactive, cocreative customer experiences with a focal agent/object (e.g., a brand) in focal service relationships. It occurs under a specific set of context-dependent conditions generating differing CE [Customer Engagement] levels; and exists as a dynamic, iterative process within service relationships that cocreate value. CE plays a central role in a nomological network governing service relationships in which other relational concepts (e.g., involvement, loyalty) are antecedents and/or consequences in iterative CE processes. It is a multidimensional concept subject to a context- and/or stakeholder-specific expression of relevant cognitive, emotional and/or behavioral dimensions.
Hollebeek <i>et al.</i> (2014, p. 154)	Consumer brand engagement	[A] consumer's positively valenced brand-related cognitive, emotional and behavioral activity during or related to focal consumer/brand interactions.
Vivek <i>et al.</i> (2014, p. 401)	Customer engagement	CE [Customer Engagement] goes beyond purchase and is the level of the customer's (or potential customer's) interactions and connections with the brand or firm's offerings or activities, often involving others in the social network created around the brand/offering/activity.
Dwivedi (2015, p. 100)	Consumer brand engagement	[C]onsumers' positive, fulfilling, brand-use-related state of mind that is characterized by vigor, dedication and absorption.
Dessart <i>et al.</i> (2016, p. 409)	Consumer engagement	[T]he state that reflects consumers' individual dispositions toward engagement foci, which are context-specific. Engagement is expressed through varying levels of affective, cognitive, and behavioural manifestations that go beyond exchange situations.

Table II Discriminant validity

	INV	SBE	COG	AFF	ACT	CBE	BE
INV	.760						
SBE	.522	.867					
COG	.457	.512	.881				
AFF	.553	.564	.674	.862			
ACT	.301	.333	.365	.531	.935		
CBE	.529	.558	.706	.922	.800	n/a	
BE	.476	.567	.467	.609	.528	.667	.924
Mean	5.740	5.417	4.667	5.626	5.722	5.551	5.381
SD	.824	1.005	1.301	1.050	1.346	1.013	1.324

Notes: INV: personal involvement; SBE: sensory brand experience; COG: cognitive

processing; AFF: affection; ACT: activation; CBE; formatively measured consumer brand

engagement; BE: brand equity; n/a: not applicable; SD: standard deviation. The square root of

AVE is presented on the diagonal.

Table III Structural model estimates

	<i>Path coefficient</i>	<i>t-value</i>	<i>Construct</i>	<i>R²</i>
H1a: INV à COG	.261***	7.623	Cognitive processing	.312
H1b: INV à AFF	.355***	9.793	Affection	.410
H1c: INV à ACT	.175***	5.015	Activation	.133
H2: INV à BE	.091***	3.611	Brand equity	.505
H3a: SBE à COG	.376***	12.551		
H3b: SBE à AFF	.379***	11.129		
H3c: SBE à ACT	.242***	6.838		
H4: SBE à BE	.252***	7.673		
H5: CBE à BE	.478***	13.051		

Note: *** $p < 0.01$ (two-tailed test).

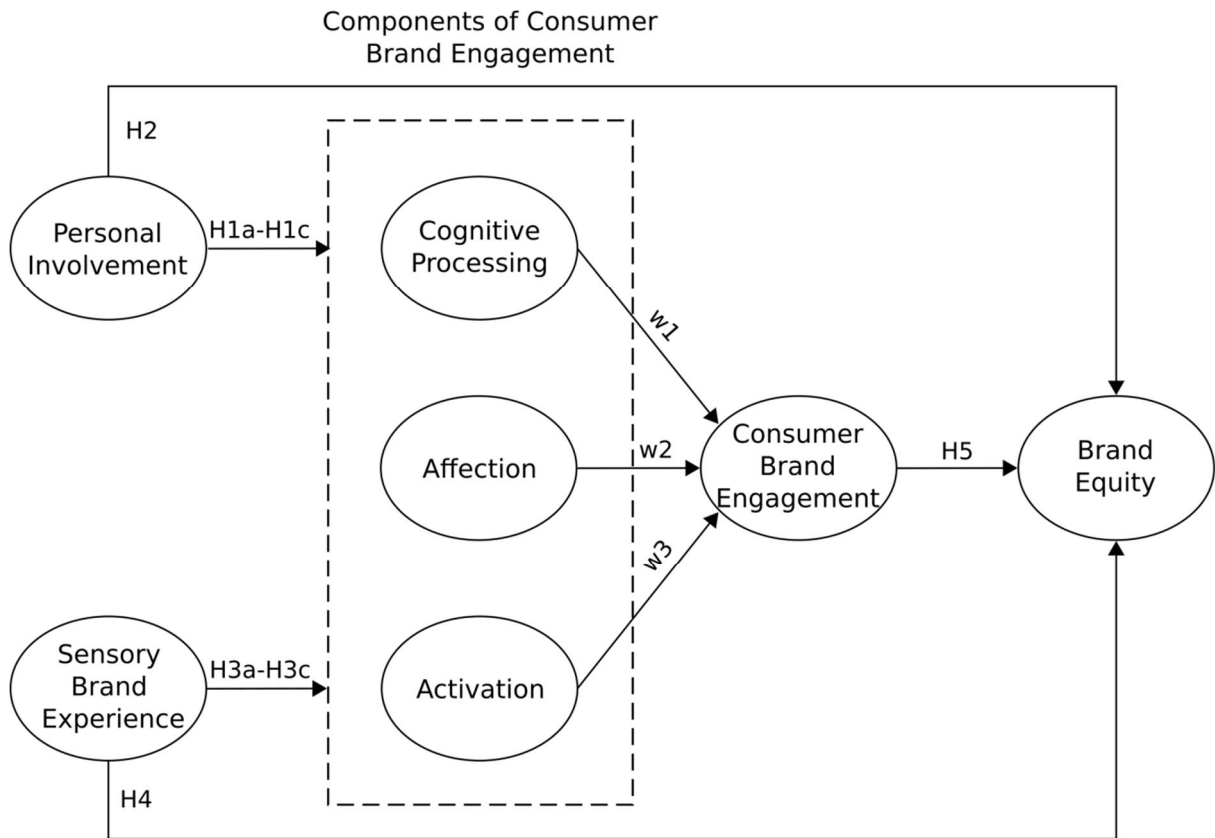


Figure 1 Research model

Appendix Survey items

Personal involvement (CR = 0.931, AVE = 0.577)

I think [brand] brand is...

1. unimportant—important
2. boring—interesting
3. irrelevant—relevant
4. unexciting—exciting
5. meaningless—meaningful
6. repulsive—appealing
7. mundane—exceptional
8. worthless—valuable
9. uninvolving—involving
10. not needed—needed

Sensory brand experience (CR = 0.858, AVE = 0.752)

1. [Brand] brand makes an impression on my visual sense and other senses.
2. [Brand] brand is interesting in a sensory way.
3. [Brand] brand does not appeal to my senses.*

Consumer brand engagement¹

Cognitive processing (CR = 0.912, AVE = 0.777)

1. Using [brand's] products gets me to think about [brand name] brand.
2. I think about [brand] brand a lot when I'm using their products.
3. Using [brand] products stimulates my interest to learn more about [brand] brand.

Affection (CR = 0.920, AVE = 0.743)

1. I feel very positive when I use [brand's] products.
2. Using [brand's] products makes me happy.
3. I feel good when I use [brand's] products.
4. I'm proud to use [brand's] products.

Activation (CR = 0.954, AVE = 0.874)

1. I use [brand's] tableware more than the tableware of other brands.
2. Whenever I'm using tableware, I usually use [brand].
3. When I use tableware, I use [brand's] products.

Brand equity (CR = 0.959, AVE = 0.853)

1. It makes sense to use [brand's] products instead of any other similar products.
2. Even if other tableware had the same features as [brand], I would still use [brand].
3. If there were other tableware as good as [brand], I would still use [brand].
4. If other tableware did not differ from [brand] in any way, I would still use [brand].

Notes: CR: composite reliability; AVE: average variance extracted; *: dropped; ¹: a higher-order construct that consists of cognitive processing, affection, and activation. All items were measured using a 7-point Likert scale except personal involvement, which was measured using a 7-point semantic differential scale.
