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# Analysing Brand Love: Integration of Predictive Validity for PLS Models

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## Abstract

The interaction between brands and consumers through online social networking sites is an increasingly important area in digital marketing. On the other hand, brand experience has become a powerful tool for marketers, connecting in an emotional way with consumers and generating engagement. However, far too little attention has been paid to consider both constructs simultaneously. The present paper will focus on analyse the effect of them as predictors of brand love. We conduct a path analysis using PLS-SEM, with formative measurements. We test formative measurements instead reflective as prior researches. We test the predictability of the model using different tools for this purpose as holdout samples and fsQCA.


**Keywords:** Branding, Experiential Marketing, Social media, PLS, Predictive Validity

## Introduction

This paper empirically explores the predictability of brand love using interaction through social networking sites and brand experiences as predictors. The first part of this paper discusses a literature review about the three constructs are dealing with. After that, the paper exposes the methodological details considering the sample size, the scales used for the study, and the selected statistical method. We consider PLS path modeling as the most convenient statistical approach because of it advantage over CB-SEM as it can determinate predictions (Becker, Rai, & Rigdon, 2013). The measurement for all the constructs are formative, in order to demonstrate the predictable effect of the established relation. Finally, we present the model and the results of the procedure.

The purpose of the present research is to demonstrate how marketers can improve their brand engagement, called as a brand love, understanding how to generate it through interaction with brands on social networking sites and brand experience. This research conducts the following study in accordance with the prior studies that consider those constructs as reflective measurements, proposing to explore the predictability of brand love using formative scales. Additionally, this research contributes testing the predictive validity of the model using different methodologies that include holdout samples and fuzzy set qualitative comparative analysis.

## Literature Review and Research Hypotheses

### Brand Love

Typical brands focus their communication on tangible aspects, meanwhile successful brands seek to generate and transmit emotions. The best brand presence connects closely with the lifestyle of consumers. The challenge is to make the brand advance to the level of receptivity understanding and consumer sensitivity to a specific message at a particular time. Companies must go beyond a linear mode and ubiquitous expression to connect with consumers throughout the brand experience (Gobé, 2005).

Kevin Roberts, CEO of Saatchi & Saatchi, developed a concept called lovemarks. The title of his book '*Lovemarks, the future beyond brands*' shows a perspective of what he calls the future. He says, "Love idealism is today the realism of companies, only building respect and inspiring love, business will move the world" (Roberts, 2005).

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There is a large volume of published studies describing brand love and it role on marketing strategies. Most of the research around brand love focused on defining and measuring it. Brand love is define as the degree of passionate emotional attachment a satisfied consumer has for a particular brand (Carroll & Ahuvia, 2006). They report that brands related with hedonic products generate easily stronger relations. While more hedonic are the motivations that guide the purchase of products in terms of greater pleasure, fun and enjoyment are the levels of love, which arouse brands. Brand love manifests itself largely among those individuals for whom brands are important in their purchasing decisions versus those that do not confer any (Esteban, Delgado Ballester, & Pelaez Muñoz, 2014).

## Social Media Interaction

Digital changes, mainly the rise of digital platforms known as social networks, have forced marketers to look for alternatives in their strategies. Consumers' decision-making has been severely affected by peer communication generated in social networking sites (SNS); such communication is considered part of the processes of natural socialisation and has forced companies to make strong changes in their marketing strategies (Vinerean, Cetina, Dumitrescu, & Tichindelean, 2013).

SNS provide an opportunity for brands to interact and engage with consumers, they allow companies to create meaningful relationships and to be connected in order to increase the intimate friendship between consumers and brands (Mersey, Malthouse, & Calder, 2010). The contextual influence of SNS on user´s brand perceptions impact brand engagement and shape perceptions of marketing communication (Chi, 2011).

Social media platforms let marketers to reach and interact with consumers easily than ever after and it is an opportunity to enhance the relationship (Chung & Austria, 2010). Brand love is an important topic for marketers considering it relationship with loyalty and word of mouth (Bergkvist & Bech-Larsen, 2010). Assuming the interaction in social networks (SNS) as a type of WOM, we are testing the possible relationship established in previous studies. We are testing that relations between consumers and brands on digital platforms are an excellent path to arouse love of consumers.

**H1:** Social media interaction is moderate and positive predictor of brand love.

## Brand Experience

In recent years, there has been an increasing amount of literature on brand experience. It is a new construct although experiences in marketing was considered previously. A considerable amount of literature has been published on this construct. These studies defined brand experience and test different approaches for measuring it (Holbrook & Hirschman, 1981; Hirschman, 1984; Gimeno, 1986; Edell & Burke, 1987; Batra & Ahtola, 1990; Bedolla, 2002; Schmitt, 2005). In past decade, brand experience was treated just as sensory stimuli that produce attraction but not affection.

By human nature, people capture all the information about the environment by the five human senses simultaneously; for many years, this has been unaware by brands, ignoring the opportunity they have to be able to motivate the senses causing lasting emotions in the consumer. Martin Lindstrom conducted a large study about sensory of brands and he developed a scale that he calls "sensogram". It is the methodology of measurement of brand sensory (Lindstrom, 2005). Nowadays, brand experience is a fundamental topic in marketing that involves sensory but also feelings, generating a complete and supreme brand experience (Hulten, 2008).

Bernd Schmitt research about experiential marketing since 90's and in recent time he expend a lot of time working with Brakus, Schmitt, and Zarantonello (2009) in order to develop a measurement for brand experience. According with Brakus *et al*. (2009) brand experience is define as feelings, sensations, cognitions and behavioural responses called by brand-related motivating force that are part of a brand's design and identity, packaging, communications and environments. Two main drivers of brand love towards the brand are the experiences and commercial communication, mainly advertising (Roy, Eshghi, & Sarkar, 2013).

**H2:** Social media interaction is a moderate and positive predictor of brand experience.

**H3:** Brand experience is a moderate and positive predictor of brand love.

## Research Method

The aim of the present study is to test the impact of social brand interaction and brand experience on brand love. All the previous scales are developed as reflective measurements. We are trying to test them as a formative measurement. For that purpose, we adapt different scales taken from previous studies. For brand experience, we consider the scale develop by Brakus *et al.* (2009). Zarantonello and Schmitt (2010) in order to predict and profile consumer behaviour used this scale. We select five items of this scale that could be tested as formative items. In case of interaction, we are testing a scale developed for this purpose taking as base the following authors: Chung and Austria (2010), Mersey *et al*. (2010), Vinerean *et al*. (2013). For brand love, we use two items that seems to shape brand love as a formative scale taken from the work done by Carroll and Ahuvia (2006) and considering recommendations of the work made by Bergkvist and Bech-Larsen (2010) (Table 1).

The survey consists of 30 questions, six of them were demographic, six were related to feelings and emotions to favourite brand, the rest of the item are related to brand experience and brand digital interaction. We use a seven-point Likert scale (1 = "completely disagree", and 7 = "completely agree") for the items provided in the Table 1. We consider brands that people declare as their favourite one, regardless the category.

The information was collected between January and May 2015. We used the convenience sampling technique which implies a non-probability sampling. We asked 225 real consumers to answer the questionnaire. The sample was represented by undergraduate students of the Universidad Anahuac, 46% male and 54% female. Respondents ranged in age from 18 to 25. We found that all of them used at least Facebook, 78% used also Twitter, 69% used other SNS (Foursquare, LinkedIn, Instagram, Vine). 93% of the respondents used SNS several times a day, 3.4% few times a week.

We asked for their favourite brand, if they buy it regularly, and if they interact with it on digital platforms. First, we made questions about the consumption and the feeling for the brand. All the questions about interaction were according with the brand that the user designed as favourite one. We were not researching about a brand or a category brand, we were trying to understand which the bond was and how it impacted brand love.

## Results

Smart PLS structural modeling was employed for testing the model. The results of the formative measurement and the path are show in Fig. 1 (Ringle, Wende, & Becker, 2015).

Assessing the outer model as a formative measurement, we present on Table 1 the corresponding loading, weights and collinearity statistics (VIF). Outer VIF values are lower than 3.3, so we assume there is no problem with collinearity of indicators. We conduct a bootstrapping analysis to test the significance of formative indicators outer weights, all of them are significant and T-Statistics larger than 1.96, except BE-1 that presents value of 1.80 (Table 1).

**Table 1: Construct Items Results**

| *Factor* | *Code* | *item* | *Factor Loading* | *Factor weight* | *Collinearity Statistics (VIF)* |
|---|---|---|---|---|---|
| **Brand love** | **BL-1** | I love this brand! | 0.796 | 0.372 | 1.490 |
| | **BL-2** | I am very attached to this brand | 0.953 | 0.739 | 1.490 |
| **Brand Experience** | **BE-1** | This brand appeal to my senses. | 0.609 | 0.170** | 1.359 |
| | **BE-2** | This brand induces feelings and sentiments. | 0.636 | 0.166* | 1.463 |
| | **BE-3** | I have strong emotions for this brand. | 0.819 | 0.364 | 1.728 |
| | **BE-4** | This brand results in bodily experiences. | 0.820 | 0.449 | 1.453 |
| | **BE-5** | This brand is action oriented. | 0.645 | 0.192* | 1.357 |
| **Interaction** | **ISM-1** | I think the content shared by this brand on the socialmedia networks is interesting | 0.740 | 0.354 | 1.595 |
| | **ISM-2** | regulary | 0.596 | 0.251* | 1.460 |
| | **ISM-3** | this brand | 0.810 | 0.420 | 2.172 |
| | **ISM-4** | This is a brand who listen to me | 0.796 | 0.312* | 2.199 |

p<0.001; *p<0.01 ; **p<0.05

The coefficient of determination, $R^2$ is 0.46 for brand love and 0.42 for brand experience. This means that interaction and brand experience moderately explain 45.9% of the variance of brand love and interaction moderately explains 41.5% of brand experience.

**Table 2: Bootstrapping and Blindfolding Results**

***Bootstrapping Path Coefficients***

| | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| **Brand Experience -> Brand Love** | 0.48 | 0.49 | 0.07 | 6.73 | 0.00 |
| **Interaction -> Brand Experience** | 0.64 | 0.66 | 0.04 | 14.91 | 0.00 |
| **Interaction -> Brand Love** | 0.26 | 0.26 | 0.08 | 3.44 | 0.00 |

***Blindfolding Construct Crossvalidated Redundancy***

| | SSO | SSE | Qï¿½ (=1-SSE/SSO) |
|---|---|---|---|
| **Brand Experience** | 1,125.00 | 893.65 | 0.21 |
| **Brand Love** | 450.00 | 298.15 | 0.34 |
| **Interaction** | 900.00 | 900.00 | |

The inner model suggests that interaction has the strongest effect on brand experience (0.64) followed by brand experience on brand love (0.48) and interaction on brand love (0.26). The hypothesized path relationship between interaction on brand love (H1), interaction on brand experience (H2) and brand experience on brand love (H3) are statistically significant. Thus, we can conclude that interaction and brand experience are both moderately strong predictors of brand love; and interaction is moderately strong predictor of brand experiences.

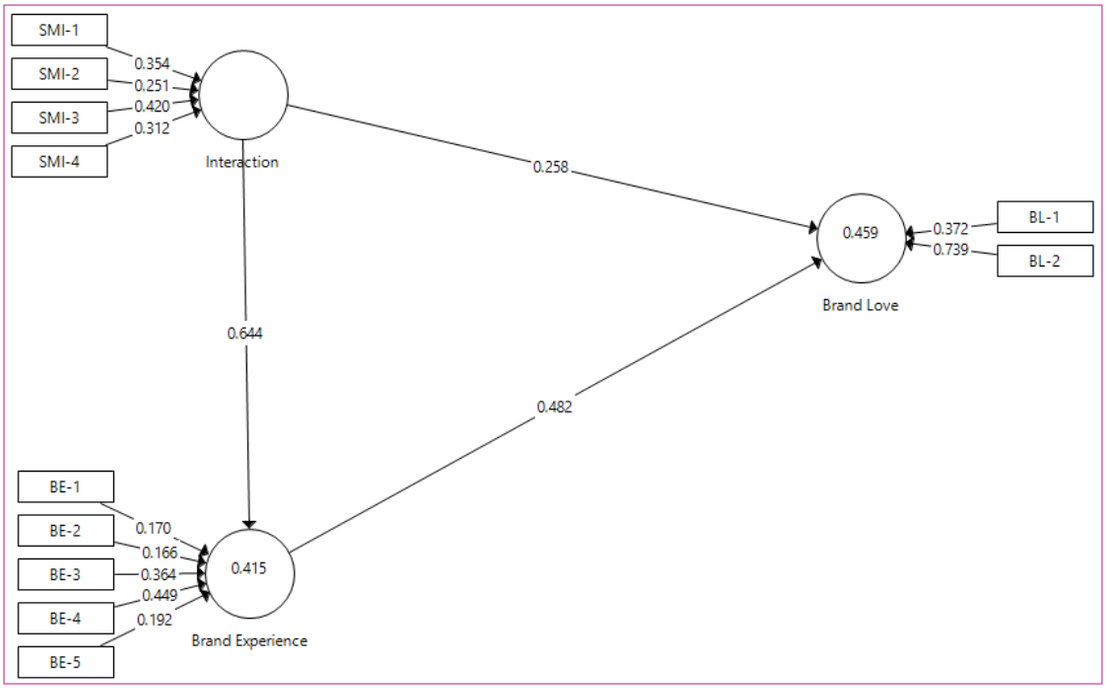



**Fig. 1: Brand Love Path Model**

Checking the structural path significance using the procedure of bootstrapping, with 5000 samples. The path coefficients of the inner model are significant, the T-statistics are larger than 1.96 (Table 2).

Using blindfolding procedure we can test the predictive relevance, the $Q^2$ represents a measure of how well-observed values are reconstructed by the model and its parameter estimates (Chin, 1998). $Q^2 > 0$ in all the cases, so we can imply the model has predictive relevance (Table 2).

Assessing the predictive validity, we use holdout samples. We divided the sample randomly into a training sample (145 cases, 66%) and a holdout sample (81 cases, 34%). We estimate the path model parameters using the training sample (Fig. 2). We standardise the holdout sample data, create construct scores and standardised them. With that results we create predictions scores for each endogenous construct in the holdout sample and finally calculate the proportion of the explained variance. (Table 3). The $R^2$ values of the holdout sample for brand experience 0.51 and for brand love 0.49 and in the training sample brand experience 0.50 and for brand love 0.46.

**Table 3: Holdout Sample Results**

***Construct scores for holdout sample***

**BL** = 0.255 $(BL1_{std})$ + 0.828 $(BL2_{std})$

**SMI** = 0.376 $(SMI1_{std})$ + 0.264 $(SMI2_{std})$ + 0.464 $(SMI3_{std})$ + 0.239 $(SMI4_{std})$

**BE** = 0.223 $(BE1_{std})$ + 0.259 $(BE2_{std})$ + 0.350 $(BE3_{std})$ + 0.378 $(BE4_{std})$ + 0.117 $(BE5_{std})$

***Prediction Scores***

$\mathbf{BE_{pred}} = 0.709 * SMI_{std}$

$\mathbf{BL_{pred}} = 0.209 * SMI_{std} + 0.516 * BE_{std}$

***$R^2$ endogenous construct of the holsour sample***

**BE ($R^2$)** = $(\text{cor}(BE_{pred}, BE_{std}))^2$ **= 0.505**

**BL ($R^2$)** = $(\text{cor}(BL_{pred}, BL_{std}))^2$ **= 0.493**

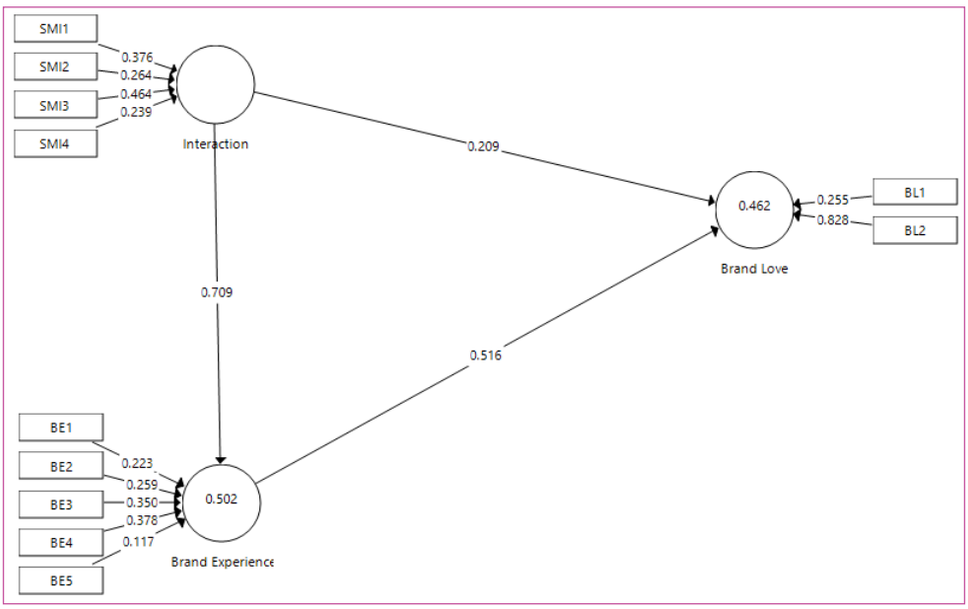
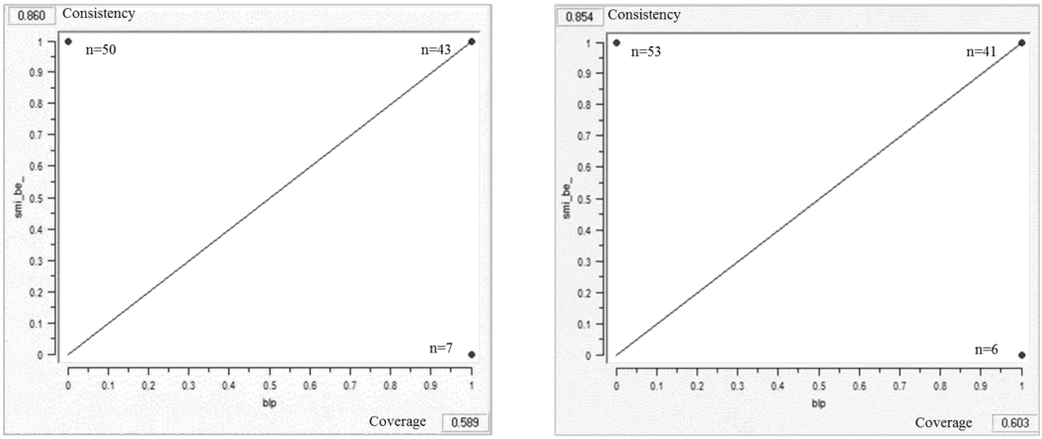



**Fig. 2: Brand Love Path Model (Training Sample)**

For testing causal asymmetry, we analyse the data using fuzzy set qualitative comparative analysis (fsQCA). Instead of treating variables as competing in explaining the outcome, fsQCA analyses how variables combine into configurations to generate an outcome (Woodside, 2013). Analysing data in fsQCA requires a transformation into set membership scores ranging between zero and one. To calibrate data, we use fsQCA software (Ragin & Davey, 2014), we set three different anchors considering a continuous fuzzy set: full membership using the maximum value, full non-membership using the minimum value and cross-over point according with the mean value.

In order to test predictive validity, we divide the data in 2 subsamples (n=100 for each sample). Fig. 3 includes test results for predictive validity of the model SMI*BE to explain BL. The models perform with high consistency (>0.85) and substantial coverage (>0.5). The findings support that the model has predictive validity.

Fig. 4 includes findings for the model SMI•BE→ BL, this model performs well, the substantial majority of cases scoring high and presenting high consistency (0.98).




**Sample 1, n=100**
**SMI*BE ≤ BL**

**Sample 2, n=100**
**SMI*BE ≤ BL**

**Fig. 3: Results for Predictive Validity fsQCA**

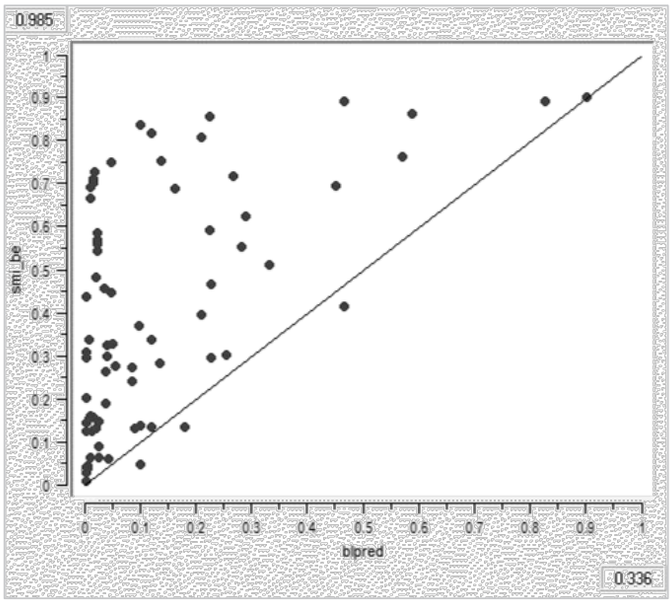



**Fig. 4: Model Results SMI•BE→ BL Using fsQCA**

## Discussion

Our finding revealed that brand love could be predicted by the interaction on SNS and the brand experiences generated by marketing strategies. Paying attention to those indicators with high outer weights as they are the important aspect of branding that marketers should be focused on. For brand love, the feeling of being attached with the brand present the highest weight (.74); for brand experience, to evoke emotions (.36) and bodily experiences (.45); for interaction, to be interested on digital relationship (.42) and interesting content shared by the brand (.35). Marketers should focus their engagement strategies on these mentioned aspects, in order to improve the relationship between consumers and brands in digital platforms.

We find that interaction and brand experiences have a positive impact on brand love, but also we detect the highest impact by interaction on brand experiences. For effective and strong relationship between brands and consumers, it should be considered how to participate in social media and how provide experiences in the four paths: sensual, affective, behavioural, and intellectual.

The evidence from this study suggests that brand interactions and brand experiences are determinant for marketers, and if they wanted to engage consumers, they need to pay attention on those constructs and develop marketing strategies in order to arouse brand love. This research pretends to propose marketers alternatives of strategies that engage consumers in a deeply relation, considering sensorial and socialisation factors. The natural human processes of socialisation, interaction and experiences are the first link in the production of emotions that remain on consumers mind and heart for longer than the images of traditional communication.

Another contribution consists on the analysis of the prediction validity of the model using different methods not used in prior in this field of marketing. Previous literature assumes that brand love results on loyalty, but we do not test this relationship on this paper, yet it could be a direction for future research.

## References


Batra, R., & Ahtola, O. T. (abril de 1990). Measuring the hedonic and utilitarian sources of consumer attitudes. *Marketing Letters, 2*(2), 159-170.

Becker, J. M., Rai, A., & Rigdon, E. (2013). Predictive validity and formative measurement in structural equation modeling: Embracing practical relevance. *Thirty fourth Internacional Conference on information Systems.* Milan: Research Methods and Philosophy. .

Bergkvist, L., & Bech-Larsen, T. (2010). Two studies of consequences and actionable antecedents of brand love. *Brand Management, 17*(7), 504-518.

Brakus, J., Schmitt, B., & Zarantonello, L. (2009). Brand Experience: What is it? How is it measured? Does it affect loyalty?. *Journal of Marketing*, 52-68.

Carroll, B. A., & Ahuvia, A. C. (2006). Some antecedents and outcomes of brand love. *Marketing letters*, 79-89.

Chi, H.-H. (2011). Interactive digital advertising vs. virtual brand community: exploratory study of user motivation and social marketing responses in Taiwan. *Journal of Interactive Advertising, 12*(1), 44-61.

Chin, W. W. (1998). The partial least squares approach for structural equation modeling. En *Modern methods for business research. Methodology for business and management* (págs. 295-336). Mahwah, NJ, US: Lawrence Erlbaum Associates Publisher.

Chung, C., & Austria, K. (2010). Social media gratification and attitude towards social media marketing messages: A study of the effect of social media marketing messages on online shopping value. *Proceedings of the Northeast Bussiness & Economics Association*, (págs. 581-586).

Edell, J., & Burke, M. (1987). The power of feelings in understanding advertising effects. *Journal of Consumer Research, 14*, 421-433.

Esteban, A. A., Delgado Ballester, M. E., & Pelaez Muñoz, J. (2014). Who loves brands? Personal factors that influence the consumer. *Revista Española de Investigación en Marketing ESIC, 18*(1), 2-16.

Gimeno, J. (1986). *La educación de los sentidos*. Madrid: Santillana.

Gobé, M. (2005). *Branding emocional* (1ª ed.). Barcelona, España: Divine egg publicaciones.

Hirschman, E. (1984). Experience seeking: A subjectivist perspective of consumption. *Journal of Business Research*, 115-136.

Holbrook, M., & Hirschman, E. (sept de 1981). The experiential aspects of consumption: Consumer Fantasies, feelings and Fun. *Journal of Consumer Research, 9*, 132-140.

Hulten, B. (2008). The Supreme Sensory Experience. En ESOMAR (Ed.), *ESOMAR Congress 2008: Frontiers in research.* Montreal.

Lindstrom, M. (2005). *Brand sense: Build Powerful Brands through Touch, Taste, Smell, Sight and Sound.* New York, USA: Free Press.

Mersey, R. D., Malthouse, E. C., & Calder, B. J. (2010). Engagement with online media. *Journal of Media Business Studies, 7*(2), 39-56.

Ragin, C. C., & Davey, S. (2014). *Fuzzy-set/qualitative comparative analysis 2.5. Irvine,* California: Department of Sociology, University of California.

Ringle, C., Wende, S., & Becker, J.-M. (2015). SmartPLS 3. *SmartPLS*. Hamburg. Obtenido de http://www.smartpls.com

Roberts, K. (2005). *Lovemarks: the future beyond brands*. United Kingdom: Power House Books.

Roy, S. K., Eshghi, A., & Sarkar, A. (2013). Antecedents and consequences of brand love. *Journal of Brand Management, 20*(4), 325-332. doi:10.1057/bm.2012.24

Schmitt, B. (2005). *Experiential Marketing.* Barcelona: Deusto.

Vinerean, S., Cetina, J., Dumitrescu, L., & Tichindelean, M. (2013). The effects of social media marketing on online consumer behavior. *International Journal of Business and Management*, 66-79.

Woodside, A. G. (2013). Moving beyond multiple regression analysis to algorithms: Calling for adoption of a paradigm shift from symmetric to asymmetric thinking in data analysis and crafting theory. *Journal of Business Research, 66*(4), 463-472.

Zarantonello, L., & Schmitt, B. H. (2010). Using the brand experience scale to profile consumers and predict consumer behaviour. *Journal of Brand Management, 17*, 532-540.