

# A Study of Customer Brand Engagement for Materialistic Groups

Yan Hui, Liu Wei

Shanghai University, Shanghai, 201800, China

**Abstract:** *Purpose: The purpose of this study is to examine how co-design activities affect consumer psychological factors, such as self-brand connection, and thus consumer-brand engagement, and to investigate the applicability of this mechanism to populations with different degrees of materialism. Design/methodology/approach: This study used a questionnaire to construct a "co-design" scenario and a materialism scale to investigate the personal characteristics of the participants, and a scenario in which consumers participated in the co-design of an apparel brand to investigate their perceived self-brand connection and customer brand engagement. Findings: Co-design activities are effective in increasing consumers' brand engagement with the brand, in which the self-brand connection plays a partially mediating role and the individual consumer's level of materialism plays a negative moderating role. Research implications: The impact of co-creation on customer psychological factors and the boundary conditions of this process should be further investigated. The results of this study will provide a reference for companies to determine whether they should engage in "value co-creation" activities with their target groups. Originality/value innovation: Current research emphasizes the importance of adopting a psychological perspective on engagement and analyzing the scope of this mechanism of action in terms of consumer characteristics.*

**Keywords:** *Co-design, Self-brand connection, Customer brand engagement, Materialism*

## 1. Introduction

Most previous studies on the relationship between value co-creation and customer brand engagement have emphasized the factors that influence the generation of co-creation behavior, such as the impact of customer engagement on value co-creation, and for the few studies that have explored the factors of co-creation outcomes, they have only explored their impact on the brand level, such as relationship quality and brand loyalty, community commitment and brand loyalty, brand equity, and brand relationships, while neglecting to examine the psychological factors, the behavioral intentions or behaviors have been explored. To address these research gaps, this paper explores how customers' participation in the co-design process affects their psychological mechanism "self-brand connection", which further influences the customer-brand engagement, and also whether there is variability in the effect of this mechanism of action for consumers with different traits?

The paper is structured as follows: The paper first discusses the existing research on co-design and customer brand engagement to summarize the research gaps and the purpose of this paper. Then, the hypothesis is proposed by describing the relationship between the variables based on relevant theories and previous studies. Based on this theoretical background, this paper conducts a questionnaire survey of contextual settings. After discussing the empirical results, this paper highlights management implications as well as directions for future research.

## 2. Research Model and Hypothesis

### 2.1. Co-design and customer brand engagement

The logic of branding and branding is in line with the logic of marketing, which is shifting toward a service-driven (S-D) logic, where the traditional "commodity-driven" (G-D) logic asserts that value is "produced" by the firm and the customer is an exogenous factor in value creation. In contrast, service dominant theory emphasizes that brand value is co-created with customers and that value must be understood in the context of complex network relationships<sup>[1]</sup>. The concept of customer value has gained widespread attention in the marketing community since the 1980s, with Vargo and Lusch<sup>[2]</sup> (2008) and

Prahalad and Ramaswamy<sup>[3]</sup> (2004) introducing the concept of value co-creation.

In the process of co-creation, interactions between companies and customers help companies to obtain and deepen information about customers and their preferences, improve customers' perceptions of use value, and co-construct personalized service experiences<sup>[4]</sup>, and the perception of use value and unique service experiences resulting from co-creation trigger customers' emotions, perceptions of usefulness, and help to build an engagement between customers and brands degree, for example, Jamid Ul Islam et al. (2019) suggest in their empirical study that quality service and pleasant interactions provided by hotel personnel help increase consumers' reliance on the brand<sup>[5]</sup>. Also, co-design improves consumer contact with the product at the time of launch<sup>[6]</sup>, making their communication campaigns more persuasive<sup>[7]</sup>.

In addition to commonly increasing a firm's innovation capacity<sup>[8]</sup>, co-creation also facilitates positive brand relationships<sup>[9]</sup>. Previous research has confirmed that the perceived competence satisfaction and perceived relevance generated by brand co-creation tasks can further increase consumers' brand co-creation engagement<sup>[10]</sup>, and when consumers' engagement with product information increases, they also spend more time focusing on more relevant information. Highly engaged customers not only share more experiential content on social platforms, but also actively recommend products to others, playing an important role in terms of service and branding<sup>[11]</sup>, and previous social network research has shown a strong relationship between engagement and consumer perception<sup>[12]</sup>, and Mingli Zhang (2017) further verified in his study that consumers' conscious engagement in brand interactions will increase the functional, hedonic, and social values that consumers perceive in them, all of which contribute to customer brand engagement<sup>[13]</sup>. Hollebeek et al. suggested that customer engagement can be an antecedent variable of customer brand engagement<sup>[14]</sup>, specifically, customer engagement in brand interactions showed significant relationships with each of the three CBE factors of cognitive processing, affect, and behavior of customer brand engagement, and had the greatest impact on the affective dimension of customers.

Therefore, this paper proposes the hypothesis that

H1: Customer participation in product co-design will increase customer brand engagement

## ***2.2. Co-design and self-brand connection***

According to ego schema theory, human perceptions of themselves are often derived from past experiences and organize and guide the processing of self-related information in individual social experiences. The most powerful medium through which objects form self-concepts is "creation"<sup>[15]</sup>, and when consumers participate in the "creative" act of co-designing a brand, becoming co-designers of a product, their likelihood of developing an emotional connection with a brand increases. The likelihood of developing an emotional connection with a brand is enhanced when consumers participate in the "creative" act of co-designing a brand, becoming co-designers of a product<sup>[16]</sup>, so it is certain that brand-customer interactions help customers integrate the brand as part of their self-concept<sup>[17]</sup>. This mutual integration of brand and self often leads consumers to perceive the brand as one of the information related to the self and to the perception of self-brand interconnection with the product they are involved in designing.

In the same brand community, participating in the process of community interaction, customers in the group will expect affirmation of their behavior and values from other organizational members<sup>[18]</sup>, and these intrinsic expectations also increase the consistency in the brand community and allow members to have similarity in terms of brand values<sup>[19]</sup>, contributing to the formation of self-brand interconnectedness, the perception of customer sameness. When consumers' psychological needs are met, strong and meaningful self-brand connections are likely to be established<sup>[20]</sup>, and co-design activities can meet some of these psychological needs by "asserting self-personality and differentiating the self" in a way that by "asserting self-personality, differentiating oneself," thus creating a self-branding connection.

H2: Co-design increases consumer perception of self-brand connection

## ***2.3. Self-brand connection and customer brand engagement***

Past studies have found that consumers prefer brands that match their personality<sup>[21]</sup>. That is, when consumers are confronted with two types of brands: perceptibly similar brands and dissimilar brands, consumers will have higher positive attitudes towards similar brands<sup>[22]</sup>, because consumers tend to express themselves from perceptibly similar brands, and they will invest more in the interaction process related to the brand for brands that are perceived as having a high degree of connection with the self. If

the congruence with self is weak, the customer brand relationship is diminished<sup>[23]</sup>. In particular, Parker (2009) found that for private consumer brands, congruence between the brand and self had a significant effect on the prediction of brand attitudes. Therefore, for companies to build good brand relationships with their customers they need to allow customers to perceive a connection between them<sup>[24]</sup>, allowing consumers to participate in the co-design process of products helps consumers to build a perception of interconnectedness and congruence between consumers and brands, and both brands that are congruent with their true selves and ideal selves gain more consumers<sup>[25]</sup>, and this self-brand connection facilitates engagement with the brand<sup>[26]</sup> and helps to increase customer-brand engagement.

On the other hand, in terms of brand identification. Similarity to the brand causes customers to identify with the focal brand in the community and increases their satisfaction with the brand<sup>[27]</sup> and commitment to the brand<sup>[28]</sup>. Just as value similarity with an organization leads to positive attitudes and behavioral intentions toward that organization<sup>[29]</sup>, it is argued here that association with the self-brand further influences consumers' positivity toward the brand and engagement with it.

H3: The customer's perceived self-brand connection will facilitate the engagement between the customer and the brand

#### 2.4. The moderating role of materialism

Richins and Dawson (1992) proposed to generalize the concept of materialism into three domains<sup>[30]</sup>: "the use of possessions to judge the success of others and oneself, the belief that possessions are central in one's life, and the belief that possessions and their acquisition lead to happiness and life satisfaction", thus materialism can be one of the variables that differentiate people.

Analysis from the perspective of variable concept. Customer brand engagement includes three dimensions: cognitive, affective and behavioral, indicating that customers will pay attention to brand dynamics in terms of cognition, will have a sense of belonging to the brand in terms of emotion, and will actively interact with the brand and recommend it to others in terms of behavior. It can be seen that the formation of customer brand engagement requires individuals to devote themselves to brand interactions and give time and effort to the brand, while materialistic people will have a strong desire to acquire wealth, but they are not willing to put too much effort into acquiring this wealth<sup>[31]</sup>. Therefore, it can be argued that even if they perceive that they own material goods and have a strong emotional connection with them material goods, the degree to which they are willing to pay for the brand and form a customer brand engagement with the brand remains low for customers with high materialism.

Analysis from the perspective of self-determination theory. Customers' psychological ownership, self-brand connection can satisfy their basic psychological needs<sup>[32]</sup>, and according to self-determination theory it is known that, on the one hand, the satisfaction of three basic psychological needs, autonomy, competence and relatedness, can increase students' motivation to learn, achieve higher levels of achievement<sup>[33]</sup>, enhance consumer motivation to engage thus promoting customer-brand relationship behavior<sup>[34]</sup>, on the other hand, focusing on extrinsic goals of pursuing wealth and reputation can hinder the satisfaction of basic needs<sup>[35]</sup>, i.e., materialism adversely affects the three needs. This could also explain the potential negative moderating role of materialism in generating customer brand engagement underpinned by self-determination theory.

Self-brand connection is an emotional relationship between consumers and customers, whereas for high material people they place more emphasis on possession and acquisition of material items<sup>[36-37]</sup>, In summary, we propose the following hypothesis.

H4: For less materialistic consumers, the self-consistent performance of brand personality brings higher brand engagement

Based on the above assumptions, the hypothetical model of this paper is shown in Figure 1.

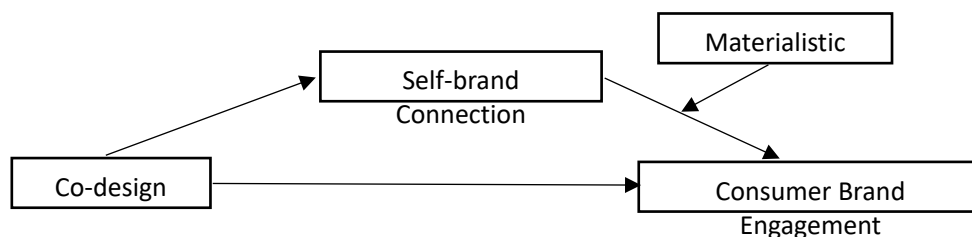


Figure 1: Conceptual model

### 3. Research design and methodology

#### 3.1. Survey method and sample composition

This paper mainly adopts a combination of offline and online questionnaires to simulate a "clothing design competition" held by a brand through a scenario setting method in order to build a "co-design" context.

The questionnaires in this study were divided into two questionnaires, namely the "Co-designed Questionnaire of Brand LV" and the "Co-designed Questionnaire of Brand Uniqlo", which were designed to expand the target group. The two questionnaires were conducted online and offline simultaneously from July 2021 to September 2021, and a total of 313 valid questionnaires were collected, among which the proportion of women was about 52.4%, most of the subjects who filled out the questionnaires were aged 18-25, and more of them had a bachelor's degree, and their monthly income was basically distributed between 2501 and 5000 RMB (see Table 1).

Table 1: Descriptive statistics

Variables	Scope	Percentage	Variables	Scope	Percentage
Ages (years)	Under 18	13.4	Monthly Income (yuan)	Under 1500	14.1
	18-25	41.2		1501-2500	12.8
	26-30	16.3		2501-3500	23.3
	31-40	8		3501-5000	20.4
	41-50	9.6		5001-8000	10.5
	51-60	7.7		8001-15000	13.1
	Over 60	3.8		Over 15001	5.8
Gender	Male	47.6	Education	High School	20.8
	Female	52.4		Junior College	17.9
				Undergraduate	34.8
				Master	26.2
				PhD	0.3

#### 3.2. Measured variables

To ensure the validity and reliability of the study questionnaires, proven and established scales were used for the measurement of all variables in this paper. All scales were scored using the Likert5 scale, and the finalized measurement questions for all study variables are given in Table 2.

(1) Self-brand engagement, borrowed from Escalas and Bettman<sup>[38]</sup>, has five items, and the Cronbach's alpha value for this scale in this study is 0.929.

(2) The scale of customer brand fit was borrowed from Dessart et al<sup>[39]</sup>, which measured the consumer's brand engagement after participating in co-design interactions in three dimensions: cognitive, affective, and behavioral, and the Cronbach's alpha value of this scale in this study was 0.949.

(3) The scale of moderating variable materialism was based on Richins and Dawson's Material Value Scale (MVS)<sup>[40]</sup> and combined with the revised Chinese version of the scale according to the local cultural characteristics, measuring the materialism of the subjects in terms of acquiring possessions as the center, pursuing happiness through acquiring possessions, and defining success by possessions.

#### 3.3. Reliability and validity test analysis

The results of reliability and validity tests are given in Table 2. Cronbach's alpha coefficient was used to evaluate the reliability and stability of the research questionnaire, and the Cronbach's alpha values of all variables were greater than 0.700, indicating that all variables have a certain degree of reliability and stability. In addition, Fornell and Larcker (1981) provided a composite reliability (CR) measure, and if the CR is greater than 0.7, the reliability of the survey is acceptable, and Table 2 shows that the CR values of all latent variables are greater than 0.7, which means that the reliability of the results is reliable. As can be seen from Table 2, the factor loading coefficients are all greater than 0.700 and the average variance extracted (AVE) is all greater than 0.500, which indicates that each of its latent variables is highly representative and has ideal convergent validity corresponding to the topic to which it belongs.

To ensure the validity of the questionnaire, the items of this questionnaire are all from the mature

scale, so the questionnaire has good content validity. The fit indices of the overall model are shown in Table 3: the value of X<sup>2</sup>/df is 1.486, which is less than 3, and the fit is ideal; the RMSEA is 0.039, which is less than 0.05, and the fit is ideal; the values of CFI, TLI, IFI, NFI, HI are all greater than 0.9, and the results are ideally fit; in summary, the model is well fit.

Table 2: Measurement Scale and Test Results for Reliability and Validity

Variables	Items	Loading	Cronbach's $\alpha$	AVE	CR
Self-Brand Connection	The brand reflects who I am.	0.818	0.929	0.7252	0.9295
	I identify with the LV brand.	0.872			
	I perceive an emotional connection to the brand.	0.864			
	I would like to use the LV brand incorporated into my designs to show others what kind of person I am.	0.85			
	I think the brand helps me become the kind of person I want to be.	0.853			
Materialism	I envy those who have expensive houses, cars and clothes.	0.765	0.759	0.5148	0.7603
	Acquiring material wealth is one of the most important achievements in life.	0.667			
	The material things that a person has can largely indicate how successful he is.	0.717			
Customer Brand Engagement	When I interact with this brand, I am fully engaged.	0.820	0.949	0.7026	0.9497
	I will follow this brand and would like to know more about the brand.	0.893			
	I feel good using this brand.	0.861			
	It makes me proud to use the brands I design.	0.810			
	I think this brand is interesting.	0.832			
	I share my thoughts with this brand.	0.794			
	When I buy clothes, this brand will be one of my regular choices.	0.819			
	I promote the brand and try to get others interested in the brand.	0.871			

Table 3: Table of overall fitting coefficients

X <sup>2</sup> /df	RMSEA	CFI	TLI	IFI	RFI	NFI
1.751	.049	.970	.965	.970	.921	.930

### 3.4. Common method bias test

In this study, common method bias was controlled by anonymous measurement. The Harman one-way test was used to test the collected data for common method bias, and the results of the exploratory factor analysis were able to extract nine factors with characteristic roots greater than one, and the variance explained by the largest factor was 25.59% (less than 40%), so there was no serious common method bias in this study.

## 4. Empirical results and analysis

### 4.1. Main effect and mediated effect test

Table 4: Primary and Mediated effect tests

	CBE		CBE		CBE	
	t	p	t	p	t	p
Participation Cost	0.937	0.35	0.673	0.502	-0.822	0.412
Co-design	3.468	0.001	4.651	0	4.357	0
Self-brand connection	5.104	0				
R square	0.143		0.071		0.058	
F value	17.236		11.869		9.496	

Using SPSS for data analysis, the Bootstrap method was used to further analyze the main effects and the mediating effects of the two mediators in this study. From Table 4 and Table 5, the co-design also had a significant effect on the self-brand connection ( $t=4.357, p<0.001$ ), a significant positive correlation between the self-brand connection and customer brand engagement ( $t=5.104, p<0.001$ ), and a significant partial mediating effect of the self-brand connection between the co-design and customer brand engagement, with an indirect effect of 26.14%.

Therefore, the hypotheses H1-H3 of this paper are all verified to be valid.

*Table 5: Total Effect, Direct Effect and Indirect Effect*

Mediating Variables		Effect	Boot SE	Boot LLCI	Boot ULCI	Percentage
	Indirect effect	0.054	0.021	0.018	0.102	26.14%
Self-brand connection	Direct effect	0.153	0.048	0.057	0.247	73.86%
	Total effect	0.207	0.052	0.106	0.305	

#### 4.2. Moderating effect test

The moderating variable materialism also played a significant negative moderating role in the effect of self-brand connection on customer brand engagement ( $\beta=-0.182$ ,  $t=-3.381$ ,  $F=14.696$ ,  $p<0.001$ ), as shown in Table 6.

*Table 6: Test Results for Moderation Effect*

	CBE	
	$\beta$	t
<b>Independent variables</b>		
Self-brand connection	0.273	5.092
<b>Moderating variables</b>		
Materialism	0.108	1.987
<b>Interaction</b>		
SBC* Materialism	-0.182	-3.381
R square	0.16	
F value	14.696***	

## 5. Discussion

### 5.1. Research findings

This paper reveals how co-design activities further influence the consumer-brand connection from the perspective of triggering consumers' psychological motivation, and at the same time verifies that the mechanism of co-design activities' psychological motivational influence on customer brand engagement is not applicable under all conditions from the perspective of consumers' individual traits, specifically, the following findings are obtained.

(1) Co-design activities organized by brands are effective in stimulating consumer customer-brand engagement (H1) for brands. This finding is consistent with previous studies that emphasize the positive effects of co-design activities.

(2) This paper combines marketing concepts with psychology in terms of how co-design activities affect psychological motivation, and obtains that co-design activities induce a sense of interconnectedness, which further generates a sense of engagement (H2-H3), i.e., self-brand connections can play a partially mediating role between co-design and customer brand engagement.

(3) Another important contribution of this paper is to verify the limitations of this mechanism of action, from the perspective of individual consumers, that perceived self-ownership and perceived interconnectedness are also effective in eliciting a sense of brand fit only for consumers with low levels of materialism (H4).

### 5.2. Management Insights

However, in order to maximize the effectiveness of the campaign, the company should base on the analysis of its own brand positioning and consider the characteristics of its target customers.

Companies still need to be based on the consumer perspective, through their own brand positioning analysis and consider the characteristics of consumers, invest in building their own brand strategy, increase consumers' emotional investment in the brand, when a consumer interconnects itself with the brand and psychologically recognize the brand, they will be more willing to be loyal to the brand and serve the brand.

**References**

- [1] Mertz MA, He Y, Vargo SL. *The evolving brand logic: a service-dominant perspective*. *Journal of the Academy of Marketing Science* 2009; 37(3): 328–44.
- [2] Vargo, S. L., & Lusch, R.F. (2008). *Service-dominant logic: continuing the evolution*. *Journal of the Academy of Marketing Science*, 36(1), 1–10.
- [3] Prahalad, C. K., & Ramaswamy, V. (2004). *Co-creation experiences: the next practice in value creation*. *Journal of Interactive Marketing*, 18(3), 5–14.
- [4] Grönroos, C. (2008). *Service logic revisited: who creates value? And who co-creates?* *European Business Review*, 20(4), 298–314.
- [5] Islam JU, Hollebeek LD, Rahman Z, Khan I, Rasool A. *Customer engagement in the service context: An empirical investigation of the construct, its antecedents and consequences*. *Journal of Retailing & Consumer Services*. 2019; 50: 277-285. doi: 10.1016/j.jretconser.2019.05.018.
- [6] Fuller, J. (2010), “Refining virtual co-creation from a consumer perspective”, *California Management Review*, Vol. 52 No. 2, pp. 98-122.
- [7] Acar, O.A. and Puntoni, S. (2016), “Customer empowerment in the digital age”, *Journal of Advertising Research*, Vol. 56 No.1, pp. 4-8.
- [8] Sawhney, Mohanbir, Gianmario Verona, and Emanuela Prandelli (2005), “Collaborating to Create: The Internet as a Platform for Customer Engagement in Product Innovation,” *Journal of Interactive Marketing*, 19, 4, 4–17.
- [9] Fuller, Johann, Gregor Jawecki, and Hans Mühlbacher (2007), “Innovation Creation by Online Basketball Communities,” *Journal of Business Research*, 60, 1, 60–71. — (2010), “Refining Virtual Co-creation from a Consumer Perspective,” *California Management Review*, 52, 2, 98–122.
- [10] Sara H. Hsieh, Aihwa Chang, *The Psychological Mechanism of Brand Co-creation Engagement*, *Journal of Interactive Marketing*, Volume 33, 2016, Pages 13-26, ISSN 1094-9968, <https://doi.org/10.1016/j.intmar.2015.10.001>.
- [11] Hajli, M. N. (2014). *The role of social support on relationship quality and social commerce*. *Technological Forecasting and Social Change*, 87, 17–27.
- [12] Cheng, J. M. S., Wang, E. S. T., Lin, J. Y. C., & Vivek, S. D. (2009). *Why do customers utilize the internet as a retailing platform? A view from consumer perceived value*. *Asia Pacific Journal of Marketing and Logistics*, 21(1), 144–160.
- [13] Mingli Zhanga, Lingyun Guob, Mu Huc, Wenhua Liud. *Influence of customer engagement with company social networks on stickiness: Mediating effect of customer value creation*. *International Journal of Information Management* 37 (2017) 229–240.
- [14] Hollebeek LD, Glynn MS, Brodie RJ. *Consumer Brand Engagement in Social Media: Conceptualization, Scale Development and Validation*. *Journal of Interactive Marketing (Elsevier)*. 2014; 28(2):149-165. doi: 10.1016/j.intmar.2013.12.002.
- [15] Rochberg-Halton, E. (1980), “Cultural signs and urban adaptation: the meaning of cherished household possessions”, *Doctoral dissertation, University of Chicago, Dissertation Abstracts International*, Vol. 40 No. 8, pp. 4754A-4755A.
- [16] Demirbilek, Oya and Bahar Sener (2003), “Product Design, Semantics and Emotional Response,” *Ergonomics*, 46, 13–14, 1346–60.
- [17] Sprott, D., Czellar, S. and Spangenberg, E. (2009), “The importance of a general measure of brand engagement on market behavior: development and validation of a scale”, *Journal of Marketing Research*, Vol. 46 No. 1, pp. 92-104.
- [18] Arthur, W., Jr, Bell, S.T., Villado, A.J. and Doverspike, D. (2006), “The use of person-organization fit in employment decision making: an assessment of its criterion-related validity”, *Journal of Applied Psychology*, Vol. 91 No. 4, pp. 786-801.
- [19] Hung, H.Y. (2014), “Attachment, identification, and loyalty: examining mediating mechanisms across brand and brand community contexts”, *Journal of Brand Management*, Vol. 21 Nos 7/8, pp. 594-614.
- [20] Escalas, J.E. 2004. *Narrative processing: Building consumer connections to brands*. *Journal of Consumer Psychology* 14, no.1: 168–80.
- [21] Kemp, E., C.Y. Childers, and K.H. Williams. 2012. *A tale of a musical city: Fostering self- Brand connection among residents of Austin, Texas*. *Place Branding and Public Diplomacy* 8, no.2: 147–57.
- [22] Aaker, J.L. (1999), “The malleable self: the role of self-expression in persuasion”, *Journal of Marketing Research*, Vol. 36 No. 1, pp. 45-57.
- [23] Parker, B.T. (2009), “A comparison of brand personality and Brand user-imagery congruence”, *Journal of Consumer Marketing*, Vol. 26 No. 3, pp. 175-184.

- [24] Fournier, S. (1998), "Consumers and their brands: developing relationship theory in consumer research", *Journal of Consumer Research*, Vol. 24 No. 4, pp. 343-373.
- [25] Malär, L., Herzog, D., Krohmer, H., Hoyer, W. D., & Kahr, A. (2018). *The Janus face of ideal self-congruence: Benefits for the brand versus emotional distress for the consumer*. *Journal of the Association of Consumer Research*, 3(2), 163–174. <https://doi.org/10.1086/697080>.
- [26] France, C., Merrilees, B. and Miller, D. (2016), "An integrated model of customer-brand engagement: drivers and consequences", *Journal of Brand Management*, Vol. 23 No. 2, pp. 119-136.
- [27] Lee, S.A. and Jeong, M. (2014), "Enhancing online brand experiences: an application of congruity theory", *International Journal of Hospitality Management*, Vol. 40, pp. 49-58.
- [28] Tuškej, U., Golob, U. and Podnar, K. (2013), "The role of consumer-brand identification in building brand relationships", *Journal of Business Research*, Vol. 66 No. 1, pp. 53-59.
- [29] Edwards, J.R. and Cable, D.M. (2009), "The value of value congruence", *Journal of Applied Psychology*, Vol. 94 No. 3, p. 654.
- [30] Richins, Marsha L., and Scott Dawson (1992), "A Consumer Values Orientation for Materialism and Its Measurement: Scale Development and Validation," *Journal of Consumer Research*, 19 (3), 303–16.
- [31] Deckop, J. R., Jurkiewicz, C. L., & Giacalone, R. A. (2010). *Effects of materialism on work-related personal well-being*. *Human Relations*, 63, 1007–1030.
- [32] Li, D., & Atkinson, L. (2020). *The role of psychological ownership in consumer happiness*. *Journal of Consumer Marketing*, 37(6), 629–638. <https://doi.org/10.1108/JCM-09-2019-3420>.
- [33] Reeve, J. (2002). *Self-determination theory applied to educational settings*. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 183–203). Rochester: University of Rochester Press.
- [34] Hsieh, S. H., & Chang, A. (2016). *The Psychological Mechanism of Brand Co-creation Engagement*. *Journal of Interactive Marketing (Elsevier)*, 33, 13–26. <https://doi.org/10.1016/j.intmar.2015.10.001>.
- [35] Kasser, T., Rosenblum, K. L., Sameroff, A. J., Deci, E. L., Niemiec, C. P., Ryan, R. M., et al. (2014). *Changes in materialism, changes in psychological well-being: Evidence from three longitudinal studies and an intervention experiment*. *Motivation and Emotion*, 38, 1–22.
- [36] Richins, M. L., & Dawson, S. (1992). *A consumer values orientation for materialism and its measurement: Scale development and validation*. *Journal of Consumer Research*, 19(3), 303–316.
- [37] Kasser, T. (2016). *Materialistic values and goals*. *Annual Review of Psychology*, 67, 489–514.
- [38] Escalas, Jennifer; Bettman. *You Are What They Eat: The Influence of Reference Groups on Consumers' Connections to Brands [J]*. *Journal of Consumer Psychology*, 2003, 13(3): 339.
- [39] Dessart L, Veloutsou C, Morgan-Thomas A. *Capturing consumer engagement: duality, dimensionality and measurement [J]*. *Journal of Marketing Management*, 2016, 32(5-6): 399-426.
- [40] Richins ML. *The Material Values Scale: Measurement Properties and Development of a Short Form [J]*. *Journal of Consumer Research*, 2004, 31(1): 209-219.