This is the peer reviewd version of the followng article:

How valuable are your customers in the brand value co-creation process? The development of a Customer Co-Creation Value (CCCV) scale / Merz, Michael A.; Zarantonello, Lia; Grappi, Silvia. - In: JOURNAL OF BUSINESS RESEARCH. - ISSN 0148-2963. - 82:(2018), pp. 79-89. [10.1016/j.jbusres.2017.08.018]

Terms of use:

The terms and conditions for the reuse of this version of the manuscript are specified in the publishing policy. For all terms of use and more information see the publisher's website.

12/10/2024 04:20

(Article begins on next page)

This is the peer reviewed version of the following article:

Merz, Michael A.; Zarantonello, Lia; Grappi, Silvia (2017). How valuable are your customers in the brand value co-creation process? The development of a Customer Co-Creation Value (CCCV) scale. JOURNAL OF BUSINESS RESEARCH, 82, p. 79-89.
DOI: http://dx.doi.org/10.1016/j.jbusres.2017.08.018

which has been published in final form at the following link, which will provide free access to the article until October 29, 2017: https://authors.elsevier.com/c/1Vhe3Xj-jK7WH

This article may be used for non-commercial purposes in accordance Elsevier terms and conditions for self-archiving

****

HOW VALUABLE ARE YOUR CUSTOMERS IN THE BRAND VALUE CO-CREATION PROCESS? THE DEVELOPMENT OF A CUSTOMER CO-CREATION VALUE (CCCV) SCALE

ABSTRACT

Despite an increasing amount of research on co-creation of value, in general, research on brand value co-creation remains limited. Particularly, how much value customers contribute to the process of brand value co-creation remains unclear. This research develops and validates in a series of eight studies the Customers' Co-Creation Value (CCCV) measurement scale that helps firms assess the value of customers in the process of brand value co-creation. The findings reveal that CCCV is a multidimensional construct consisting of two higher-order factors and seven dimensions: customer-owned resources (including brand knowledge, brand skills, brand creativity, and brand connectedness dimensions) and customer motivation (comprising brand passion, brand trust, and brand commitment dimensions). Further, the CCCV scale reliably and validly gauges the value customers contribute to a firm's brand. The CCCV framework helps marketing managers understand how customers can contribute to a firm's brand value co-creation efforts and how much value customers contribute to a brand in the co-creation process.

Keywords: Brand value, co-creation, scale development, CCCV, partial least squares structural equation modeling (PLS-SEM)

1. Introduction

Co-creation of value has become a widely researched construct, particularly since Vargo and Lusch's (2004) observation that marketing is moving towards a more service-centered logic. Central to this service-dominant (S-D) logic perspective are the foundational propositions (FPs) that value can only be created between a firm and its stakeholders in every aspect of the value chain (FP6) and that it is the beneficiary who always uniquely and phenomenologically determines this value through value-in-use perceptions (FP10). However, despite an increasing amount of research on co-creation of value, in general, there has been very little focus on brand value co-creation (e.g., Payne et al., 2009; Ramaswamy & Ozcan, 2016). This is despite a widespread acknowledgment that customers and firms always co-create brand value together (Merz, He, & Vargo, 2009; Vargo & Lusch, 2016). Illustrative of such brand value co-creation efforts are Dove's "Speak Beautiful" initiative that encouraged customers to contribute to the brand's marketing communication by tweeting positive body image thoughts, Nike and the Livestrong Foundation's "Chalkbot" initiative that contributed toward the brand's marketing communication, and Whirlpool's "Every Day, care™ Project" initiative that connected customers to one another to induce their contributions toward the brand's customer acquisition, expansion, and retention efforts (Harmeling et al., 2017).

A possible explanation for this lack of research on brand value co-creation is a lack of understanding of the concept of brand value when examined from the perspective of the S-D logic (Merz et al., 2009; Ramaswamy & Ozcan, 2016). Based on the tenets of the S-D logic, this research views brand value as the perceived use value co-created and determined collectively by all the actors in the ecosystem (Merz et al., 2009). Accordingly, it views brand value co-creation as the process of creating perceived use value for a brand through network relationships and social interactions among the ecosystem of all actors (Vargo & Lusch, 2016). Against this new

perspective, it is unclear how customers can help co-create brand value and how their value can be assessed. While a few studies provide insights into how brand value can be co-created between a firm and its customers (e.g., Fournier, 1998; Harmeling et al., 2017), no research systematically explores the exact nature of brand value co-creation. Moreover, while existing research has proposed different measures related to co-creation (e.g., Ranjan & Read, 2016; Yi & Gong, 2013), no research has developed a measure that assesses customers' value in the brand value co-creation process.

To fill this gap and provide marketers with a more systematic way of understanding value contributions of customers to a firm's brand value creation efforts, this research (1) develops an integrative framework of the new customers' co-creation value (CCCV) construct and (2) reports the development of a reliable and valid CCCV scale. The CCCV scale gauges the value customers contribute to a brand. It helps firms understand how customers can contribute to a firm's brand value co-creation efforts and how to assess their contribution value.

2. Co-creation and determination of value

The S-D logic with its FPs provides a suitable framework for how value is created. It rests on the premise that service is the fundamental basis of exchange (FP1) and that goods are solely distribution mechanisms for service provision (FP3; Vargo & Lusch, 2016). The S-D logic suggests that value is always co-created between multiple actors, always including the beneficiary (FP6; Vargo & Lusch, 2016). The interaction orientation of the S-D logic is also implied by the relational orientation specified in FP8: a service-centered view is inherently beneficiary oriented and relational (Vargo & Lusch, 2008). This interaction manifests itself through dialog, participation, and engagement. It enables intricate exchange by raising the possibility of generating solutions (Ranjan & Reed, 2016).

The S-D logic further suggests that the beneficiary always uniquely and phenomenologically determines value through perceived value-in-use (FP10; Vargo & Lusch, 2008). Therefore, while value can be derived through interaction with the firm, its brands, and its value propositions, it can also arise through the process of consumption (Ranjan & Read, 2016; Vargo & Lusch, 2008). Value-in-use extends "…beyond the co-production, exchange, and possession of a good or service, and requires customers to learn how to use, repair, and maintain a product or service proposition" (Ranjan & Read, 2016, p. 293). It is customers' experiential evaluation of a product or service proposition beyond its functional attributes and in accordance with their individual motivation, specialized competencies, actions, processes, and performances (Ranjan & Read, 2016). Customers assess and determine the value of a value proposition based on the specificity of their usage (Vargo & Lusch, 2008). In value-in-use, beneficiaries' mental models attach value to the usage processes. These mental models have a specificity and uniqueness that offer personalization: a unique consumption value through the enjoyment of doing or an idiosyncratic use process (Ranjan & Read, 2016).

Taken together, the S-D logic highlights that value is always co-created between multiple actors and determined by the beneficiary through perceived use value. For example, value is co-created between a burger joint and its customers in that the burger joint provides the dining facility, whereas the customers assemble their burgers, fries, and sodas during consumption. For customers, this consumption experience, in general, can be valuable, and hence they might keep patronizing different burger joints. The aforementioned highlights that value co-creation can be viewed as an individual consumption-based construct as opposed to a cumulative organizational construct.

3. Co-creation and determination of brand value

Brand value has been conceptualized as the value that is solely attributable to a brand. Just as value, in general, is determined by the beneficiary through perceived use value, so too can brand value be viewed as being determined by the beneficiary. Therefore, in line with previous research, brand value can be viewed as the perceived use value (i.e., customers' experiential evaluation of the product or service proposition) that is solely attributable to the brand (Merz et al., 2009; Ramaswamy & Ozcan, 2016). Further, as value, in general, is co-created between multiple actors, brand value can also be viewed as being co-created by a multitude of actors (Ramaswamy & Ozcan, 2016). As Ramaswamy and Ozcan (2016, p. 97) highlight, "brands are now increasingly seen in light of collaborative, value creation activities of a firm and all of its stakeholders, and brand value as a collective measure of all stakeholders' perceived values." In line with this view and the evolving brand logic (Merz et al., 2009), this study defines brand value as the perceived use value of a brand co-created and determined collectively by all actors. This view acknowledges Merz et al.'s (2009, p. 329) observation that the evolving brand logic "brings with it a new understanding of brand value." Moreover, it is consistent with FP1, FP3, FP6, and FP10 of the S-D logic.

The concept of brand value, as defined in this study, is similar to the concept of brand equity in that they both deal with customer perceptions. However, while a brand's value is about customer perceptions of the brand's use-value (i.e., experience), brand equity is about customer perceptions of how well known a brand is (i.e., brand awareness) and what it represents (i.e., brand image) (Keller, 1993). Brand value also differs from established evaluative and motivational constructs, such as brand attitude and brand involvement. Brand attitude indicates an enduring, unidimensional summary evaluation of the brand that drives behavior (Keller, 1993). Brand involvement refers to a consumer's perceived relevance of the brand based on inherent needs, values, and interests (Zaichkowsky, 1985). Contrarily, brand value is about

customers' perceptions of a brand's value-in-use. Finally, brand value is distinct from relationship constructs, such as brand commitment and brand love. Brand commitment is the desire of a customer to maintain a relationship with the brand and make it successful (e.g., Thomson et al., 2005). Brand love refers to the degree of emotional attachment a consumer has for a given brand (e.g., Carroll & Ahuvia, 2006). Contrarily, brand value takes into account a multiplicity of network relationships instead of only consumer-brand relationships.

Given the previous definition of brand value, *brand value co-creation* takes place when a firm and its customers interact to co-create the actual experience (i.e., value-in-use) that is solely attributable to the brand. This does not necessarily mean that brand value co-creation takes place at the time of consumption. Brand value can be co-created before, during, or after the consumption of the brand. On the contrary, it means that customers' co-creation activities help enhance the brand's perceived value-in-use (i.e., brand experience) by making it unique and different from other brands (Ramaswamy & Ozcan, 2016). Therefore, we define brand value co-creation as the process of creating perceived use value for a brand through network relationships and social interactions among all the actors in the ecosystem (Merz et al., 2009; Vargo & Lusch, 2016).

For example, brand value is co-created between Wendy's and its customers in that Wendy's provides the dining facility, whereas the customers assemble their burgers, fries, and sodas during consumption. Customers might value this experience at Wendy's in particular and hence patronize Wendy's, instead of McDonald's, when dining at a fast-service restaurant, share their positive brand experience on social media, and respond quickly to a survey on ideas for further improvements in the brand experience. An online advertisement that claims that the items on Wendy's menu are varied and made of real and fresh ingredients might elicit customers' response, such that they share this value proposition on social media adding a personal note that

it is also tasty based on their own consumption experience. Thus, customers help co-create the Wendy's brand value (i.e., perceived value-in-use). This enables Wendy's to offer value propositions and experiences that are solely attributable to its brand including its perceived appeal, perceived freshness of its ingredients, patronizing customers (e.g., hip millennials), the street appeal of its restaurants, and the décor.

Taken together, firms and customers contribute to a brand's value proposition, thereby co-creating brand value. The focus of this study is to develop a measurement scale that helps assess *the value of customers in the process of brand value co-creation.* For simplicity, this scale is referred to as the CCCV scale. The development of an appropriate CCCV scale requires a better understanding of how customers can help firms co-create a brand's perceived value-in-use.

4. Customers' co-creation value (CCCV) and its dimensions

Previous research suggests that there are two ways in which customers can help firms co-create brand value: through their ability and through their willingness. Therefore, the CCCV scale should encompass both categories.

Customers' ability to co-create brand value is founded upon the customer engagement marketing literature. It refers to customers' voluntary resource contribution to a firm's brand building activities. Harmeling and colleagues (2017) refer to this as customer-owned resources, which include customers' knowledge, persuasion capital/skills, creativity, and network-assets/connectedness. Customer-owned resources are "tangible and intangible assets firms use to conceive of and implement its strategies" (Barney & Arikan, 2001, p. 138). The underlying idea is that customers have something desirable, other than their financial patronage, which they can contribute to a brand.

Customers' willingness to co-create brand value is founded upon the brand relationship literature. It refers to customers' motivation to participate actively in the process of brand value

co-creation and is a form of brand relationship quality, which can be defined as a customer-based indicator of the strength and depth of the relationship between a customer and a brand (Fournier, 1998). According to Fournier's (1998) model, and in line with the relationship quality literature, in general (Athanasopoulou, 2009), brand relationship quality consists of affective and socio-motive attachments (love/passion), behavioral ties (commitment), and supportive cognitive beliefs (trust). Overall, the category of customer-owned resources pertains to things a customer has and that a firm would like to acquire from the customer. Contrarily, the category of customer motivation includes things that propel a customer to provide the resources to the company.

This study conceptualizes CCCV as a multidimensional concept consisting of two higher-order factors (customer-owned resources and customer motivation). It posits that the *customer-owned resources* factor consists of four dimensions (knowledge, persuasion/skills, creativity, and network/connectedness) and the *customer motivation* factor consists of three dimensions (passion, commitment, and trust). This is in line with brand value research that suggests that brand value co-creation depends on stakeholder's ability and willingness to co-create (Payne et al., 2008; 2009). It also conforms to the work of Ranjan and Read (2016) who derive a value co-creation concept and its measurement. Their co-production category with dimensions of knowledge, equity, and interaction can be linked to the proposed customer-owned resources category with dimensions of knowledge/creativity, skills, and connectedness, respectively. Their value-in-use category with dimensions of experience, personalization, and relationship can be linked to the proposed customer motivation category with dimensions of commitment, trustworthiness, and passion, respectively.

4.1 Customer-owned resources

Brand knowledge captures customers' accumulation of knowledge about the brand (Harmeling et al., 2017). Customers use brands to extend their self. The firsthand experience of

customers with the brand and knowledge of their own needs make them valuable sources of brand knowledge (Harmeling et al., 2017). The brand knowledge of customers helps firms with marketing communications by improving the quality and relevance of shared content (e.g., blogging and writing reviews; Payne et al., 2009) and by aiding in the development, management, and dissemination of the brand narrative. In addition, their brand knowledge helps firms with new product and brand developments (Nambisan, 2002) and customer-to-customer support.

Brand skills represent the extent to which stakeholders are stimulated by the brand in terms of their capabilities. Harmeling and colleagues (2017) argue that the customer persuasion capital, the degree of influence a customer has on existing or potential customers, constitutes a valuable resource for firms. The idea is that information from a customer has more weight, is more trusted, and appears more authentic than from a firm (e.g., marketing communications) or a salesperson (Trusov et al., 2009). However, customer persuasion depends mainly on customers' ability to convince other stakeholders critically, logically, and/or analytically about an idea, concept, opinion, perspective, or brand (Escalas, 2007).

Brand creativity represents customers' "production, conceptualization, or development of novel and useful ideas, processes, or solutions to problems" (Kozinets et al., 2008, p. 341). Essentially, it can be a source of competitive advantage. It helps firms gain unique insights into marketing functions such as new product development (Sethi et al., 2001) and brand usages. It also helps firms with creative (customer-generated) marketing communication content.

Brand connectedness refers to customers' interpersonal ties within their social network. Harmeling and colleagues (2017) refer to brand connectedness as customers' network assets. Customers belong to social networks that allow them to socialize, connect, and interact with other existing and potential customers and firm employees (Payne et al., 2009). According to Brown

and Reingen (1987), firms can extend their reach beyond what is available through their own resources (e.g., existing customers) when accessing these networks. To this end, firms can access particularly influential individuals or unique subgroups (e.g., brand communities; Payne et al., 2009). In general, accessing the social networks of existing and potential customers helps firms broaden and diversify audiences.

4.2 Customer motivation

Brand passion, admiration, or love is the positive and strong feeling customers develop toward brands (Albert et al., 2013). Fournier (1998) argues that passion is at the core of all strong brand relationships. Brand passion leads to emotional attachment and influences relevant behavioral factors (Muniz & Schau, 2005). Firms can use this brand enthusiasm to strengthen emotionally their existing customer-brand relationships. Firms further benefit from the brand enthusiasm of their stakeholders by extending their reach through positive word of mouth and by leveraging the fact that brand enthusiasts want to participate in the development of new products (Muniz & Schau, 2005).

Brand trust refers to the extent to which a stakeholder is confident about the brand. It is the tendency of the customer to believe that a brand keeps its promises (Chaudhuri & Holbrook, 2001). Brand trust is viewed as a key element of any customer relationship. Firms can integrate stakeholders who trust their brand(s) into the process of brand value creation, thereby enhancing their attitude and loyalty toward the brand and their willingness to participate in open innovation projects (Fueller et al., 2008).

Brand commitment represents the extent to which stakeholders are willing to work for the brand and its success. Moorman et al. (1992) define commitment as an enduring desire and willingness to work at maintaining a brand relationship. Committed stakeholders help firms co-create brand value in that they take on more committed roles in developing new products co-

creatively with firms (O'Hern & Rindfleisch, 2010) and participate more actively in brand communities, thereby helping build a loyal following and positive brand judgments (McAlexander et al., 2002).

5. Scale development and validation procedures

The process to develop a valid and reliable scale measuring stakeholders' CCCV started with a review of the relevant literature (e.g., Alves et al., 2016; Dover & Salkowitz, 2011; Gouillart & Billings, 2013; Meynhardt et al., 2016; Yi & Gong, 2013), and subsequently proceeded with standard scale development procedures (e.g., Churchill, 1979; DeVellis, 2011; Nunnally & Bernstein, 1994). The entire process comprises eight studies (see online Appendix A).

5.1. Study 1: Scale dimensionality

Owing to the scarcity of research on stakeholders' CCCV, this research first adopted a qualitative approach to verify the CCCV construct and its underlying dimensions. To this end, three studies were conducted. Study 1a consisted of eight in-depth interviews with people who were experienced in co-creation activities. These interviews helped identify a preliminary set of CCCV dimensions. Study 1b consisted of an open-ended survey with 100 university students (female = 51%) from a large university in the western U.S. Study 1c consisted of another open-ended survey involving twelve professionals working for international companies. The results of both studies substantiated the findings that emerged in Study 1a. Based on the literature, the identified dimensions were grouped into two categories: customer-owned resources (Harmeling et al., 2017) and customer motivation (Fournier, 1998). The first two columns of Table 1 show the final list of dimensions.

Insert Table 1 here

5.2. Study 2: Item generation

In Study 2, two researchers generated an initial set of CCCV items based on the qualitative data collected in Study 1. This initial set comprised 128 items covering the seven CCCV dimensions.

5.3. Study 3: Item reduction

The purpose of Study 3 was to reduce the initial pool of 128 items to a more manageable set. To this end, two studies were conducted that involved both experts (Study 3a) and customers (Study 3b). In Study 3a, six independent marketing experts assessed the face and content validities of the items. The experts received operational definitions of CCCV and its dimensions. They placed each item in the best fitting category (Brocato et al., 2012). Only items that at least two thirds of the experts placed into the same category were retained. This procedure resulted in 82 items. In Study 3b, students from a large university in the western U.S. (N = 26, male = 54%) were randomly selected from a large research laboratory pool and were asked to indicate the extent to which each of the 82 items described people who participate in companies' activities across brands, product categories, stages, functions, and product types. Respondents used a 7-point scale (1 = "Not at all descriptive" and 7 = "Extremely descriptive") to provide their evaluations. Fifty-one items with a mean > 5 were retained.

5.4. Study 4: Further item reduction and scale dimensionality

The purpose of Study 4 was to purify and refine the CCCV scale. A sample of adult respondents (N = 300) representative of the U.S. population[1] regarding gender, age, and ethnicity

[1] The sample included quotas based on the 2012 Census: *gender:* 49% male; *age:* 13% aged 18–24 years, 34% aged 25–44 years, 34% aged 45–64 years, and 19% aged 65 years and older; and *ethnicity*: 62% White, 13% Black or

participated in this study. Qualtrics, a major U.S. market research company, conducted the survey online. Respondents mentioned a brand they would help co-create to some extent and indicated their level of agreement along the 51 CCCV items using a 7-point Likert scale (1="Strongly disagree" and 7="Strongly agree").

An exploratory factor analysis using principal component analysis with oblimin rotation was used to reduce the number of CCCV items (Netemeyer et al., 2003). The analysis resulted in a seven-factor solution explaining 72.94% of total variance. The seven factors were consistent with the previous conceptualization. A total of 22 items with loading > .60 and cross loading < .30 were retained. All the retained items reported satisfactory item-to-total and inter-item correlations within their factor (>.50; Netemeyer et al., 2003).

Four independent marketing experts provided feedback on the derived list of items to finalize the scale items. Accordingly, one item was removed to avoid redundancy, and four items were added to supplement existing items. The final list of 25 items is presented in Table 1 (third column).

5.5. Study 5: Scale assessment and construct validation

5.5.1. Procedure

The purpose of Study 5 was to assess the scale dimensionality and test its validity. A new sample of adult respondents (N = 150) representative of the U.S. population regarding gender, age, and ethnicity participated in this study[2]. Again, Qualtrics helped conduct the online survey. Specifically, respondents were asked to mention a brand they helped or would help co-create. In

African American, 1% American Indian and Alaska Native, 5% Asian, 17% Hispanic or Latino origin, and 2% of another ethnicity.

[2] Same quotas as Study 4, based on the 2012 Census.

line with existing research (e.g., Batra et al., 2012), they were also asked to indicate the extent to which they agree with three general items on their perceived contribution to the value of the mentioned brand (i.e., “I am participating in further developing this brand,” “I am collaborating to build this brand by participating in different activities,” and “I am co-creating this brand’s value;” Cronbach’s alpha = .95) and the 25-item CCCV scale. Subsequently, the respondents were asked to think of a brand they did not help or would *not* help co-create and indicate their level of disagreement using the same set of items.

5.5.2. Data analysis

Responses were merged and data analysis was conducted on an aggregate sample of 300 responses. Partial least squares structural equation modeling (PLS-SEM) was used to analyze the data by applying SmartPLS 3 (Ringle et al., 2014). This allowed the use of both reflective and formative measurement scales. Specifically, CCCV was conceptualized as a Type II multidimensional third-order index (reflective-formative type; Jarvis et al., 2003). It was posited that all the seven identified dimensions have an impact on the two second-order latent constructs (customer motivation and customer-owned resources) that, in turn, have an impact on the third-order latent CCCV construct. Therefore, the second- and third-order constructs are “formative,” whereas the items used to measure each of the seven first-order dimensions (e.g., *knowledge* items) are influenced by their corresponding dimensions and are hence “reflective.”

Item loadings, composite reliabilities (CR), and average variance extracted (AVE) were considered to assess the reflective constructs. All were above the recommended thresholds, thus confirming convergent validity and reliability (see Table 1). Moreover, the Fornell and Larcker (1982) and the heterotrait-monotrait (HTMT; Henseler et al., 2015; Voorhees et al., 2016) criteria

showed adequate discriminant and convergent validities for all the reflective constructs (see Table 1)[3].

Moreover, hierarchical component modeling (Wetzels et al., 2009) was used to verify the formative model hypothesized for the second- and third-order constructs (i.e., customer motivation, customer-owned resources, and CCCV; Type II: reflective-formative type). To assess the measurement properties of the formative higher-order index, multicollinearity was assessed using variance-inflation factors (VIF). All the VIFs were below the cut-off value of 5 (Hair et al., 2011). At the same time, all first-order and second-order coefficients were high and statistically significant (see Figure 1), thereby supporting the CCCV scale as a formative third-order construct.

Insert Figure 1 about here

To test the concurrent validity of the scale, the correlation between the composite score of CCCV and the three-item CCCV scale was assessed. The analysis showed a positive and significant correlation ($r = .56$, $p < .001$). Criterion validity was assessed by examining whether the CCCV scale can differentiate between brands that respondents would help co-create versus brands they would not help co-create. Pairwise sample t-tests showed that the means for brands

[3] This analysis was replicated using Lisrel 8.80. The fit of the model was satisfactory (Chi-Square = 711.73, $p < .001$, d.f. = 254, RMSEA = .07, NNFI = .99, CFI = .99, SRMR = .04). The reliability, convergent validity, and discriminant validity of the scale were further confirmed.

that the respondents would help co-create were higher, and the difference between the two samples was significant ($p < .001$) across all variables.[4]

5.6. Study 6: Stability of the scale

Using a different sample of respondents and brands, the purpose of Study 6 was to check the CCCV scale's dimensionality, its stability over time, and its ability to discriminate across different brands and respondents. Apple and Nike were selected as the brands of choice because in the previous data collections they emerged as the brands that participants both want and do not want to co-create the most. For each brand, the respondents were asked to indicate their level of agreement with the 25 items of the CCCV scale. The questionnaire was administered to a sample of 145 students randomly selected from a large research laboratory pool of a large university in the western U.S. (female = 64%, mean age = 24.6 years). A second questionnaire was administered two weeks after data collection asking the same sample to rate the two brands again. Two weeks is considered an adequate period to assess the scale's test-retest reliability (Nunnally & Bernstein, 1994). The question order was randomized, and filler questions were included, to minimize memory effects. The test-retest sample included 108 respondents.

Test-retest correlations showed values of .70 for Apple and .68 for Nike (all p*s* < .001). Mean differences of CCCV between the two periods were not significant for both Apple (T1 = 4.33 vs. T2 = 4.27, $p > .47$) and Nike (T1 = 4.04 vs. T2 = 4.05, $p > .86$).

[4] CCCV was also compared across two groups of respondents identified *a priori* (i.e., Millennials and Baby boomers) to test if there are significant differences between them. These two groups are expected to have different co-creation values (e.g., Dover & Salkowitz, 2011). Results confirmed that Millennials (M = 5.56; SD = 1.02) have higher CCCV than Baby boomers (M = 5.22; SD = 1.04; t (148) = 2.05; p = .04).

A mean CCCV score was computed for both brands by averaging the CCCV scores obtained in T1 and T2 to support the idea that different customers have different CCCV for the same brand. For Apple, the minimum CCCV score was 1.93, whereas the maximum score was 6.34. For Nike, the minimum and maximum scores were 1.46 and 6.68, respectively (all differences >.05). Pairwise t-tests were conducted, using the CCCV means for both brands, to show that the same set of respondents have different CCCV scores for both brands. The cases were matched by respondents. The results confirmed that the same set of respondents have different CCCV scores for different brands ($p < .05$). The results were the same when only T1 or T2 scores were used.

5.7. Study 7: Discriminant and predictive validity of the scale

5.7.1. Procedure

The purpose of Study 7 was to examine the extent to which CCCV is different from other marketing constructs and the ability of the CCCV scale to predict brand value co-creation-related behaviors. A sample of 152 adult respondents, representative of the U.S. population regarding gender, age, and ethnicity, participated in this study[5]. Qualtrics again facilitated the data collection for this study.

Respondents were asked to think of a brand they would co-create and rate the brand on the 25-item CCCV scale. For discriminant validity purposes, respondents were asked to complete scales on customer value co-creation behavior (CVCCB; Yi & Gong, 2013), value co-creation

[5] Quotas for this sample were based on the 2015 Census: *gender:* 48% male; *age:* 12% were aged 18–24 years, 18% were aged 25–34 years, 17% were aged 35–44 years, 18% were aged 45–54 years, 17% were aged 55–64 years, and 18% were aged 65 years and older; and *ethnicity*: 77% were White, 13% were Black or African American, 1% were American Indian and Alaska Native, 6% were Asian, and 3% were of another ethnicity.

(VCC; Ranjan & Read, 2016), brand attitude (Batra & Stayman, 1990), brand involvement (Zaichkowsky, 1985), brand commitment (Eisingerich & Rubera, 2010), and brand love (Carroll & Ahuvia, 2006). For predictive validity purposes, respondents completed additional scales of the co-created brand, such as help intention (Hsieh & Chang, 2016; CR = .94, AVE = .84), feedback intention (Hsieh & Chang, 2016; CR = .90, AVE = .84), willingness to pay a premium price (derived from Aaker [1996]; CR = .94, AVE = .84), purchase intention (Hsieh & Chang, 2016; CR = .93, AVE = .82), social media behavior[6] (derived from Hollebeek et al. [2014] and Wang et al. [2012]; CR = .97, AVE = .85), and word of mouth (Gebauer et al., 2013; CR = .93, AVE = .82).

5.7.2. Discriminant validity

The Fornell and Larcker (1981) criterion and the HTMT method (Henseler et al., 2015; Voorhees et al., 2016) were used to confirm the discriminant validity for all first-level dimensions (for details see online Appendix B). Discriminant validity was also confirmed by comparing the higher-level constructs of the scales (all HTMT ratios < .85) and the second-level constructs of the CCCV scale separately (all HTMT ratios < .89). Taken together, these results show adequate discriminant validity for the CCCV scale and all the other analyzed constructs[7].

---

[6] The following items were developed: "I share my positive experience with this brand via social media," "I post comments on social media related to this brand," "I comment on posts related to this brand on social media," "I forward interesting comments/ news about this brand to others on social media," "I follow this brand on social media," and "I help others on social media who encounter issues with this brand."

[7] In this study, differences in the CCCV structure between respondents who bought the brand versus those who did not buy the brand they would help co-create were examined. Using SmartPLS 3 (Ringle et al., 2014), the PLS-SEM multi-group approach was used to assess whether the CCCV structure is equal across the two groups. The analysis revealed that the path coefficients of the CCCV third-order construct were equal across the two groups, therefore

5.7.3. Common-method variance (CMV)

CMV was assessed to ensure that the common method bias did not seriously affect the measures. A theoretically unrelated marker variable was included in this study and its relation to the CCCV scale dimensions was controlled (Lindell & Whitney, 2001; Podsakoff et al., 2003). Respondents were asked to evaluate the weather of the city where they lived (M = 2.33, SD = 1.50). Correlations between the CCCV dimensions and the marker variable ranged from .04 to .17, and the HTMT ratio ranged from .04 to .19. Therefore, CMV is not considered a major problem in the model.

5.7.4. Measurement model and predictive validity

The structure of the CCCV scale was further tested by using outcome variables. A confirmatory factor analysis (CFA) considering all the dimensions of the CCCV scale and all the outcomes showed adequate reliability, convergent validity, and discriminant validity for all the constructs. The item loadings, AVE, and CR values were greater than the recommended thresholds. The Fornell and Larcker (1981) and the heterotrait-monotrait (HTMT; Henseler et al., 2015; Voorhees et al., 2016) criteria were met. Subsequently, a PLS-SEM model (SmartPLS 3; Ringle et al., 2014) was implemented to assess the effectiveness of the CCCV scale in predicting all the relevant dependent variables. The model fit was evaluated based on multiple fit indices (Fornell & Cha, 1994). The measurement model was evaluated by verifying the structure of the CCCV scale. This further supported the CCCV scale as a formative third-order construct (see

---

confirming the stability of the scale (the differences between the two groups were always non-significant). In line with the conceptualization of CCCV, respondents with higher brand attitude/involvement showed higher CCCV than respondents with lower brand attitude/involvement.

Table 2). Given this, the latest model was applied to the analysis of the relationship between CCCV and relevant outcomes.

Insert Table 2 about here

The structural model was further evaluated using path coefficients (ranging from .29 to .64) and significance level values (all PLS parameter estimates were significant at $p < .001$). R-square coefficients were greater than .10 (Falk & Miller, 1992) for all outcomes (feedback intention = .38, help intention = .34, purchase intention = .30, willingness to pay a premium price = .36, social media behavior = .37, word of mouth = .37). This suggests that the CCCV scale exhibited adequate explanatory power, thereby providing support for its predictive validity.

Finally, analysis showed that the CCCV scale conceptualized as a third-order construct is stronger related to the relevant outcomes than a rival model aimed at testing the direct effect of the second-order constructs (customer-owned resources and customer motivation) on the relevant outcomes. This provides further evidence of the convergent validity of the CCCV measure because it more strongly relates to the behavioral indicators of co-creation value (i.e., the analyzed outcomes). The proposed model representing CCCV as a multidimensional construct comprising two higher-order factors (i.e., customer motivation and customer-owned resources) showed that CCCV is strongly related to the relevant outcomes compared to a rival model hypothesizing a direct effect of the two second-order constructs on the outcomes. The fit of the proposed model (GoF = .69) was stronger than that of the rival model (GoF = .65). This analysis supports the notion that the two indicators of CCCV (i.e., customer motivation and customer-

owned resources) are best represented as subscales of the higher-order construct, and thereby confirms the hypothesized third-order model[8].

5.8. Study 8: CCCV and actual co-creation behaviors

Study 8 related CCCV to actual brand value co-creation behaviors. Study 8a focused on the actual brand value co-creation behavior of Facebook users. Study 8b focused on the actual brand value co-creation behavior of Twitter users.

In Study 8a, a sample of Facebook users (N = 60; female = 55%; mean age = 22.8 years) indicated their co-creation value concerning the Facebook brand. Participants filled out an online survey. They rated the Facebook brand on the 25-item CCCV scale. Subsequently, a research assistant accessed the profile of each participant to track a series of Facebook-related behaviors including number of comments posted last week/month, photos posted last week/month, status updates made last week/month, shares made last week/month, friends, and groups with which the users share an association.

A PLS-SEM model, implemented by SmartPLS 3 (Ringle et al., 2014), was performed to assess the predictive validity of the CCCV scale. Results show that CCCV is a significant predictor of all actual behaviors, except for the number of groups with which the users share an association and the number of photos posted over the specified one week time period (see Figure

[8] The validity of the CCCV scale is also evidenced by showing its relationships with relevant outcomes. To further confirm this, we performed a 2 (customer motivation: high vs. low) x 2 (customer-owned resources: high vs. low) analysis of variance (ANOVA) to examine whether customer motivation and customer-owned resources independently or in interaction predict the outcomes (see Park et al., 2010 for similar analyses). Results reveal main effects of the two sub-dimensions for all outcomes; however, their interaction is not significant for all dependent variables (all ps > .12). These results suggest that customer motivation and customer-owned resources independently contribute toward the prediction of the relevant outcomes as indicators of CCCV.

2, Panel A). R-square coefficients are acceptable for all dependent variables, except for number of friends. This suggests that the CCCV scale exhibits adequate explanatory power for seven out of the ten actual behaviors. A similar study was conducted with Twitter users (N = 38; male = 49%; mean age = 22.3 years) (Study 8b). Results confirmed that the CCCV scale showed adequate explanatory power for all eight Twitter-related behaviors (i.e., number of tweets made last week/ month, retweets made last week/ month, replies made last week/ month, people followed, and respondents; see Figure 2, Panel B).[9]

Insert Figure 2

---

6. General discussion

6.1. Theoretical contributions

This research introduced the concept of CCCV, provided a conceptual definition, and developed a multidimensional scale to measure the construct. The brand engagement (Harmeling et al., 2017) and brand relationship quality (Fournier, 1998) literature served as a theoretical foundation for the developed conceptual model. The findings of this research are in accordance with Ranjan and Read's (2016) work on the value co-creation concept. They are also in line with research that has theoretically discussed determinants of brand value co-creation.

[9] For Studies 8a and 8b, the third-order CCCV model was compared to a rival model testing the direct effect of the second-order constructs on outcomes. CCCV is stronger related to the relevant outcomes than the rival model. The fit of the proposed model was stronger than that of the rival model in both cases. Results further confirm the hypothesized CCCV third-order model.

For example, Gregory's (2007) stakeholder brand engagement process suggests that brand *knowledge* is one of the key determinants of brand value co-creation between internal and external stakeholders. Without the necessary knowledge and access to information, a dialogue between the involved actors is not possible (Prahalad & Ramaswamy, 2004). Similarly, Schau et al. (2009) find that people's *skills* determine co-creation practices in brand communities. Romero and Molina (2011) argue that the power of co-creation emerges from the ability of firms to access new skills, thereby integrating complementary competencies. Further, Ramaswamy and Ozcan (2016) argue that people are inherently creative, which eventually leads to successful brand engagements. Potts et al. (2008) describe how situated brand creativity enables co-creation in the context of social media. *Passion* has also been found to be an important determinant of brand value co-creation. In fact, the brand community literature suggests that members of brand communities share consumption experiences and enhance mutual appreciation for the brand because they are passionate about the brand (McAlexander et al., 2002; Zhou et al., 2012). Further, Baumann and Le Meunier-FitzHugh (2011) point out that *trust* between partners drives the process of brand value co-creation because it provides an "internally guaranteed certainty" that the other party will not behave opportunistically. Moreover, O'Hern and Rindfleisch (2010) point out that recent cultural developments (e.g., the Internet) lead customers to undertake more committed roles and that this *commitment* is necessary for developing products co-creatively with firms. Payne et al. (2008) similarly suggest that it is the degree of customer commitment that determines the continuity of a customer-brand relationship. Finally, previous research has argued that any brand is essentially socially constructed (Gergen, 1994). In line with the brand community literature, Berthon et al. (2009) argue that the *connectedness* of a multiplicity of stakeholders determines the degree of co-creation and recreation. Overall, CCCV is a rich concept that cannot be captured by a single measure.

Finally, this research shows that CCCV is positively related to actual brand value co-creation, willingness to help, willingness to provide feedback, willingness to pay a premium price, purchase intention, and word of mouth. Therefore, it extends existing research that only conceptually argues the importance of brand value co-creation (e.g., Merz et al., 2009).

6.2. Managerial implications

The CCCV scale is a reliable and valid measurement of how valuable customers are in the brand value co-creation process. Essentially, it helps managers (1) understand how customers can contribute to a firm's brand value and (2) assess customers' co-creation value. Regarding the former, this research suggests that successful brand value co-creation depends on the firm's ability to identify and leverage customer-owned resources and customer motivations. Thus, firms must invest in tools that enable customers to contribute resources to the firm (e.g., knowledge and creativity) and keep them motivated (e.g., committed and passionate) (Harmeling et al., 2017). Regarding the latter, this research suggests that the higher customers score on the CCCV scale, the more valuable contributors they are to a firm's brand value. Therefore, the CCCV scale allows firms to profile their existing customer base. Equipped with an understanding of the extent to which existing customers help co-create brand value, managers can assign customers utility scores based on their co-creation value (e.g., high/neutral/low). Managers can make use of this information in that they develop marketing actions to engage different customer groups in an effective manner. For example, the group of customers with a high utility score can be actively approached to help the firm co-create brand value. In contrast, the group of customers with a low utility score can be given less priority in the firm's co-creation efforts. In fact, managers must ensure that the customers in this cluster do not destroy brand value. Finally, the group of customers with an indifferent utility score should be given special attention to help them move into the high utility group. By profiling their existing customer base, marketing managers can

engage the most promising customers in their brand value co-creation activities, instead of treating all customers alike. Taking this even further, the CCCV scale can be used as a basis for evaluating and rewarding customer performance. If a firm regularly assesses and rewards activities, customers might be more willing to help co-create a brand's value (Yi & Gong, 2013).

Since CCCV can be assessed at the first-order and second-order levels, the CCCV scale can help managers better understand the sources of their customers' co-creation value. Insights at the different levels allow managers to identify problem areas in the firm's co-creation efforts. Resources can be more effectively allocated to areas that need improvement. For example, they can be used for educating stakeholders about the brand (i.e., knowledge), honing their skills, helping them to be creative, triggering their passion, developing trust, growing commitment, and/or ensuring connectedness. Consequently, the CCCV scale can be used to allocate a firm's limited resources to improve particular aspects of CCCV. Tracking changes across the different aspects of CCCV over time is also possible.

6.3. Limitations and further research

This research has several limitations that warrant further research. For example, it shows that CCCV positively affects help intention, feedback intention, willingness to pay a premium price, purchase intention, positive word of mouth, social media behavior, and actual co-creation behavior on Facebook and Twitter. However, future research should test CCCV within a more comprehensive model. Additional consequences (e.g., brand equity, sales, and satisfaction), moderators (e.g., personality), and mediators (e.g., value-in-use perceptions, emotional attachment, and feeling of ownership) should receive more research attention.

Furthermore, this study focuses on CCCV from the customer's point of view. Co-creation of brand value, however, is a process that involves multiple stakeholders in a service ecosystem. Therefore, future research should also examine CCCV from the perspective of other stakeholders.

Moreover, the CCCV scale consists of 25 items. Given its length, future research should explore the possibility of developing a short version of the CCCV scale by implementing, for example, the generalizability theory (Brennan, 1992).

Finally, in line with the development of other brand-related scales, such as the brand experience (Brakus et al., 2009) and brand personality scales (Aaker, 1997), the CCCV scale does not distinguish between service and product brands. However, previous research suggests that the likelihood of customers to co-create brand value might differ depending on whether the context is a service or product (Yi & Gong, 2013). Therefore, future research should examine the applicability of the CCCV scale to both the service brand and product brand value co-creation contexts.

References

Aaker, D.A. (1996). Measuring brand equity across products and markets. *California Management Review*, *38*(3), 102-120.

Aaker, J. (1997). Dimensions of brand personality. *Journal of Marketing Research*, *34*(3), 347-356.

Albert, N., Merunka, D., & Valette-Florence, P. (2013). Brand passion: Antecedents and consequences. *Journal of Business Research*, 63, 904-909.

Alves, H., Fernandes, C., & Raposo, M. (2016). Value co-creation: Concept and contexts of application and study. *Journal of Business Research*, *69*(5), 1626-1633.

Athanasopoulou, P. (2009). Relationship quality: A critical literature review and research agenda. *European Journal of Marketing*, *43*(5/6), 583-610.

Barney, J., & Arikan, A. (2001). The resource-based view: origins and implications. In M. Hitt, R. Freeman, & J. Harrison (Eds.), *Handbook of strategic management* (pp. 124–185). Oxford: Blackwell.

Batra, R., & Stayman, D. M. (1990). The role of mood in advertising effectiveness. *Journal of Consumer Research*, *17*(2), 203-14.

Batra, R., Ahuvia, A., & Bagozzi, R. P. (2012). Brand love. *Journal of Marketing*, *76*(2), 1-16.

Baumann, J., & Le Meunier-FitzHugh, K. (2013). Trust as a facilitator of co-creation in customer-salesperson interaction–an imperative for the realization of episodic and relational value? *AMS Review*, 1-16.

Berthon, P., Pitt, L.F., & Campbell, C. (2009). Does brand meaning exist in similarity or singularity? *Journal of Business Research*, *62*(3), 356-361.

Brakus, J.J., Schmitt, B.H., & Zarantonello, L. (2009). Brand Experience: What is it? How is it measured? Does it affect loyalty? *Journal of Marketing*, *73*(3), 52-68.

Brennan, R.L (1992). Generalizability theory. *Educational Measurement: Issues and Practices*, *1*1(4), 27-34.

Brocato, D.E., Voorhees, C. M., & Baker, J. (2012). Understanding the influence of cues from other customers in the service experience: a scale development and validation. *Journal of Retailing*, *88*(3), 384-398.

Brown, J.J., & Reingen, P.H. (1987). Social ties and word-of-mouth referral behavior. *Journal of Consumer Research*, *14*(3), 350-362.

Carroll, B.A., & Ahuvia, A.C. (2006). Some antecedents and outcomes of brand love. *Marketing Letters*, 17, 79-89.

Chaudhuri, A, & Holbrook, M.B. (2001). The chain of effects from brand trust and brand affect to brand performance: The role of brand loyalty. *Journal of Marketing*, *65*(2), 81-93.

Churchill, G.A. Jr. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, *16*(February), 64-73.

DeVellis, R. F. (2011). *Scale development: Theory and applications* (3rd ed.). Thousand Oaks, CA: Sage.

Dover, M., & Salkowitz, R. (2011). Co-creating your brand with young world consumer-entrepreneurs. *Ivey Business Journal*, *75*(1), 1-4.

Eisingerich, A.B., & Rubera, G. (2010). Drivers of brand commitment: A cross-national investigation. *Journal of International Marketing*, *18*(2), 64-79.

Escalas, J.E. (2007). Self-referencing and persuasion: narrative transportation versus analytical elaboration. *Journal of Consumer Research*, *34*(4), 421-429.

Falk, R.F., & Miller, N.B. (1992). *A primer for soft modeling*. Akron, OH: University of Akron Press.

Fornell, C.G., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39-50.

Fornell, C., & Cha, J. (1994). Partial least square. In: Bagozzi R. P. (ed.). *Advanced methods of marketing research*. Cambridge, MA: Blackwell, 52-78.

Fournier, S.M. (1998). Consumers and their brands: developing relationship theory in consumer research. *Journal of Consumer Research*, 24(4), 343-374.

Fueller, J., Matzler, K., & Hoppe, M. (2008). Brand community members as a source of innovation. *Journal of Product Innovation Management*, 25, 608-619.

Gebauer, J., Füller, J., & Pezzei, R. (2013). The dark and the bright side of co-creation: triggers of member behavior in online innovation communities. *Journal of Business Research*, *66*(9), 1516-1527.

Gergen, K.J. (1994). *Reality and relationships, soundings in social construction*. Cambridge: Harvard University Press.

Gouillart, F., & Billings, D. (2013). Community-powered problem solving. *Harvard Business Review*, *91*(4), 70-77.

Gregory, A. (2007). Involving stakeholders in developing corporate brands: The communication dimension. *Journal of Marketing Management*, *23*(1-2), 59-73.

Hair, J.F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19, 139-151.

Harmeling, C.M., Moffett, J.W., Arnold, M.J., & Carlson, B.D. (2017). Toward a theory of customer engagement marketing. *Journal of the Academy of Marketing Science*, 1-24.

Henseler, J., Ringle, C.M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43, 115-135.

Hollebeek, L.D., Glynn, M., & Brodie, R.J. (2014). Consumer brand engagement in social media: Conceptualization, scale development, and validation. *Journal of Interactive Marketing*, 28(2), 149-165.

Hsieh, S. H., & Chang, A. (2016). The psychological mechanism of brand co-creation engagement. *Journal of Interactive Marketing*, 33, 13–26.

Jarvis, C.B., MacKenzie, S. B., & Podsakoff, P.M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research*, 30, 199-218.

Keller, K.L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57(1), 1–22.

Kozinets, R.V., Hemetsberger, A., & Schau, H.J. (2008). The windom of consumer crowds: collective innovation in the age of networked marketing. Journal of Macromarketing, 28, 339-354.

Lindell, M.K., & Whitney, D.J. (2001). Accounting for common method variance in cross-sectional designs. *Journal of Applied Psychology*, 86, 114-121.

McAlexander, J.H., Schouten, J.W., & Koenig, H.F. (2002). Building brand community. *Journal of Marketing*, *66*(1), 38-54.

Merz, M.A., He, Y., & Vargo, S.L. (2009). The evolving brand logic: A Service-Dominant logic perspective. *Journal of the Academy of Marketing Science*, *37*(3), 328-344.

Meynhardt, T., Chandler, J.D., & Strathoff, P. (2016). Systemic principles of value co-creation: Synergetics of value and service ecosystems. *Journal of Business Research*, 69(8), 2981-2989.

Moorman, C., Zaltman, G., & Deshpandé, R. (1992). Relationships between providers and users of market research: The dynamics of trust within and between organizations. *Journal of Marketing Research*, 29(3), 314-29.

Muniz, A.M., & Schau, H.J. (2005). Religiosity in the abandoned apple newton brand community. *Journal of Consumer Research*, 31(4), 737-747.

Nambisan, S. (2002). Designing virtual customer environments for new product development: toward a theory. *Academy of Management Review*, 27, 392-413.

Netemeyer, R.G., Bearden, W.O., & Sharma, S. (2003). *Scaling procedures: issues and applications*. Sage, London.

Nunnally, J.C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.

O'Hern, M.S., & Rindfleisch, A. (2010). Customer co-creation: A typology and research agenda. *Review of Marketing Research*, 6, 84-106.

Park, C.W., MacInnis, D.J., Priester, J., Eisingerich, A.B., Iacobucci, D. (2010). Brand attachment and brand attitude strength: Conceptual and empirical differentiation of two critical brand equity drivers. *Journal of Marketing*, *74*(6), 1-17.

Payne, A.F., Storbacka, K., & Frow, P. (2008). Managing the co-creation of value. *Journal of the Academy of Marketing Science*, *36*(1), 83-96.

Payne, A.F., Storbacka, K., Frow, P., & Knox, S. (2009). Co-creating brands: Diagnosing and designing the relationship experience. *Journal of Business Research*, *62*(3), 379-389.

Podsakoff, P.M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.

Potts, J, Cunningham, S., Hartley, J., & Ormerod, P. (2008). Social network markets: A new definition of the creative industries. *Journal of Cultural Economics*, *32*(3), 167-185.

Prahalad, C.K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing*, *18*(3), 5-14.

Ramaswamy, V., & Ozcan, K. (2016). Brand value co-creation in a digitalized world: An integrative framework and research implications. *International Journal of Research in Marketing*, *33*(1), 93-106.

Ranjan, K.R., & Read, S. (2016). Value co-creation: Concept and measurement. *Journal of the Academy of Marketing Science*. 44, 290–315.

Ringle, C.M., Wende, S., & Becker, J.M. (2014). SmartPLS 3, Hamburg.

Romero, D., & Molina, A. (2011). Collaborative networked organizations and customer communities: value co-creation and co-innovation in the networking era. *Production Planning & Control*, 22(5/6), 447-472.

Schau, H.J., Muniz, A.M., & Arnould, E.J. (2009). How brand community practices create value. *Journal of Marketing*, *73*(5), 30-51.

Sethi, R., Smith, D. C., & Park, C. W. (2001). Cross-functional product development teams, creativity, and the innovativeness of new consumer products. *Journal of Marketing Research*, *38*(1), 73–85.

Thomson, M., MacInnis, D.J., & Park, C.W. (2005). The Ties That Bind: Measuring the Strength of Consumers' Attachments to Brands. *Journal of Consumer Psychology*, 15 (1), 77–91.

Trusov, M., Bucklin, R. E., & Pauwels, K. (2009). Effects of word-of- mouth versus traditional marketing: findings from an internet social networking site. *Journal of Marketing*, 73(5), 90–102.

Vargo, S.L., & Lusch, R.F. (2016). Institutions and axioms: an extension and update of service-dominant logic. *Journal of the Academy of Marketing Science*, 44, 5-23.

Vargo, S.L., & Lusch, R.F. (2008). Service-dominant logic: continuing the evolution. *Journal of the Academy of Marketing Science*, *36*(1), 1-10.

Vargo, S.L., & Lusch, R.F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, *68*(1), 1-17.

Voorhees, C.M., Brady, M.K., Calantone, R., & Ramierz, E. (2016). Discriminant validity testing in marketing: An analysis, causes for concern, and proposed remedies. *Journal of the Academy of Marketing Science*, 44, 119-134.

Wang, X., Yu C., & Wei, Y. (2012). Social media peer communication and impacts on purchase intentions: A consumer socialization framework. *Journal of Interactive Marketing*, 26(4), 198-208.

Wetzels, M., Odekerken-Schröder, G., & van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly*, 33, 177.

Yi, Y., & Gong, T. (2013). Customer value co-creation behavior: Scale development and validation. *Journal of Business Research*, *66*(9), 1279-1284.

Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research*, 12(December), 341-352.

Zhou, Z., Zhang, Q., Su, C., & Zhou, N. (2012). How do brand communities generate brand relationships? Intermediate mechanisms. *Journal of Business Research*, *65*(7), 890-895.

Table 1. The CCCV scale: Dimensions, definitions, items, and measurement properties of reflective constructs (Study 5)

Dimension	Operational definition	Item	Loadings	t-values	Composite reliability	AVE
Customer-owned resources						
Knowledge	The extent to which the stakeholder is informed and experienced with a brand.	• I am informed about what this brand has to offer	.84***	15.74	.90	.75
		• I am knowledgeable about this brand	.91***	57.67		
		• I am an expert of this brand	.86***	36.62		
Skills	The extent to which the stakeholder is stimulated by the brand in terms of his/her capabilities.	• I think analytically when I deal with this brand	.84***	21.09	.86	.68
		• I think logically when I deal with this brand	.83***	26.80		
		• I think critically when I deal with this brand	.80***	15.88		
Creativity	The extent to which the stakeholder is stimulated by the brand in terms of his/her use of imagination and development of original ideas.	• I become imaginative when I interact with this brand	.91***	33.89	.93	.83
		• I become creative when I interact with this brand	.91***	53.90		
		• I become curious when I interact with this brand	.90***	57.47		
Connectedness	The extent to which the stakeholder is associated, bonded, or linked with others because of the brand.	• I am networked with other consumers of this brand	.88***	36.59	.91	.71
		• I am connected to other consumers of this brand	.89***	48.34		
		• I belong to one or more brand communities related to this brand	.73***	11.74		
		• I socialize with other consumers of this brand	.86***	34.08		
Customer motivation						
Passion	The extent to which the stakeholder has extremely positive feelings towards the brand	• I am addicted to this brand	.77***	24.02	.90	.69
		• I am a fan of this brand	.85***	23.32		
		• I love this brand	.89***	35.96		
		• I admire this brand	.82***	17.42		
Trustworthiness	The extent to which the stakeholder is confident about the brand.	• I trust this brand	.77***	2.74	.86	.61
		• This brand addresses my concerns honestly	.85***	42.48		
		• I rely on this brand when I have a problem	.75***	16.13		
		• I depend on this brand to satisfy my needs	.74***	11.31		
Commitment	The extent to which the stakeholder is willing to work for the brand and its success.	• My goal is to make this brand a success	.91***	46.27	.94	.79
		• I am driven to make this brand a success	.88***	34.40		
		• I am committed to making this brand a success	.88***	24.39		
		• I am enthusiastic about making this brand a success	.88***	29.50		

Fornell and Larcker criterion (HTMT ratio)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Knowledge (1)	**.87**						
Skills (2)	.54 (.67)	**.82**					
Creativity (3)	.62 (.72)	.73 (.88)	**.91**				
Connectedness (4)	.48 (.56)	.50 (.61)	.62 (.70)	**.84**			
Passion (5)	.70 (.83)	.44 (.55)	.64 (.74)	.43 (.49)	**.83**		
Trustworthiness (6)	.70 (.84)	.69 (.87)	.69 (.81)	.50 (.60)	.69 (.83)	**.78**	
Commitment (7)	.65 (.74)	.64 (.77)	.78 (.84)	.57 (.64)	.67 (.76)	.75 (.84)	**.89**

Table 2. Measurement properties of reflective constructs and results for the third-order factor model of the CCCV scale (Study 7)

Reflective constructs

Latent variables	Indicators	Loadings	T-values	Composite reliability	AVE
Skills	Skills1	.90***	45.50	.88	.70
	Skills2	.86***	46.28		
	Skills3	.76***	9.62		
Knowledge	Knowledge1	.82***	30.51	.87	.69
	Knowledge2	.79***	18.33		
	Knowledge3	.88***	38.15		
Creativity	Creativity1	.89***	44.67	.90	.75
	Creativity2	.92***	82.59		
	Creativity3	.78***	16.26		
Connectedness	Connectedness1	.90***	40.18	.94	.81
	Connectedness2	.92***	52.37		
	Connectedness3	.87***	34.21		
	Connectedness4	.90***	41.10		
Passion	Passion1	.70***	13.24	.91	.72
	Passion2	.90***	36.60		
	Passion3	.91***	41.33		
	Passion4	.87***	26.13		
Trustworthiness	Trust1	.81***	17.00	.89	.68
	Trust2	.85***	29.65		
	Trust3	.79***	20.30		
	Trust4	.84***	28.71		
Commitment	Commitment1	.91***	36.50	.96	.86
	Commitment2	.93***	57.80		
	Commitment3	.96***	90.55		
	Commitment4	.90***	23.38		

Fornell and Larcker criterion (HTMT ratio)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Knowledge (1)	**.83**						
Skills (2)	.66 (.80)	**.84**					
Creativity (3)	.54 (.65)	.59 (.72)	**.87**				
Connectedness (4)	.38 (.43)	.33 (.38)	.41 (.45)	**.90**			
Passion (5)	.50 (.60)	.43 (.48)	.50 (.58)	.39 (.44)	**.85**		
Trustworthiness (6)	.45 (.55)	.38 (.45)	.48 (.57)	.47 (.54)	.45 (.55)	**.82**	
Commitment (7)	.57 (.65)	.60 (.68)	.56 (.63)	.36 (.38)	.66 (.72)	.38 (.45)	**.93**

Note. The square root of average variance extracted (AVE) are in bold on the diagonal of the correlation matrix, inter-construct correlations are shown off the diagonal.

Higher-order factor model

	Path coefficients	t-value	VIF
Connectedness → Customer-owned resources	.40***	16.81	1.25

Creativity → Customer-owned resources	.32***	19.15	1.73
Knowledge → Customer-owned resources	.29***	20.52	1.93
Skills → Customer-owned resources	.29***	22.93	2.04
Passion → Customer motivation	.36***	21.82	2.55
Commitment → Customer motivation	.44***	19.81	1.87
Trustworthiness → Customer motivation	.33***	17.11	2.28
Customer-owned resources → CCCV	.48***	22.32	1.90
Customer motivation → CCCV	.61***	22.16	1.90

***$p < .001$.

Figure 1. Results for the third-order model of the CCCV scale. Path coefficients (t-values); (*VIF*) (Study 5)

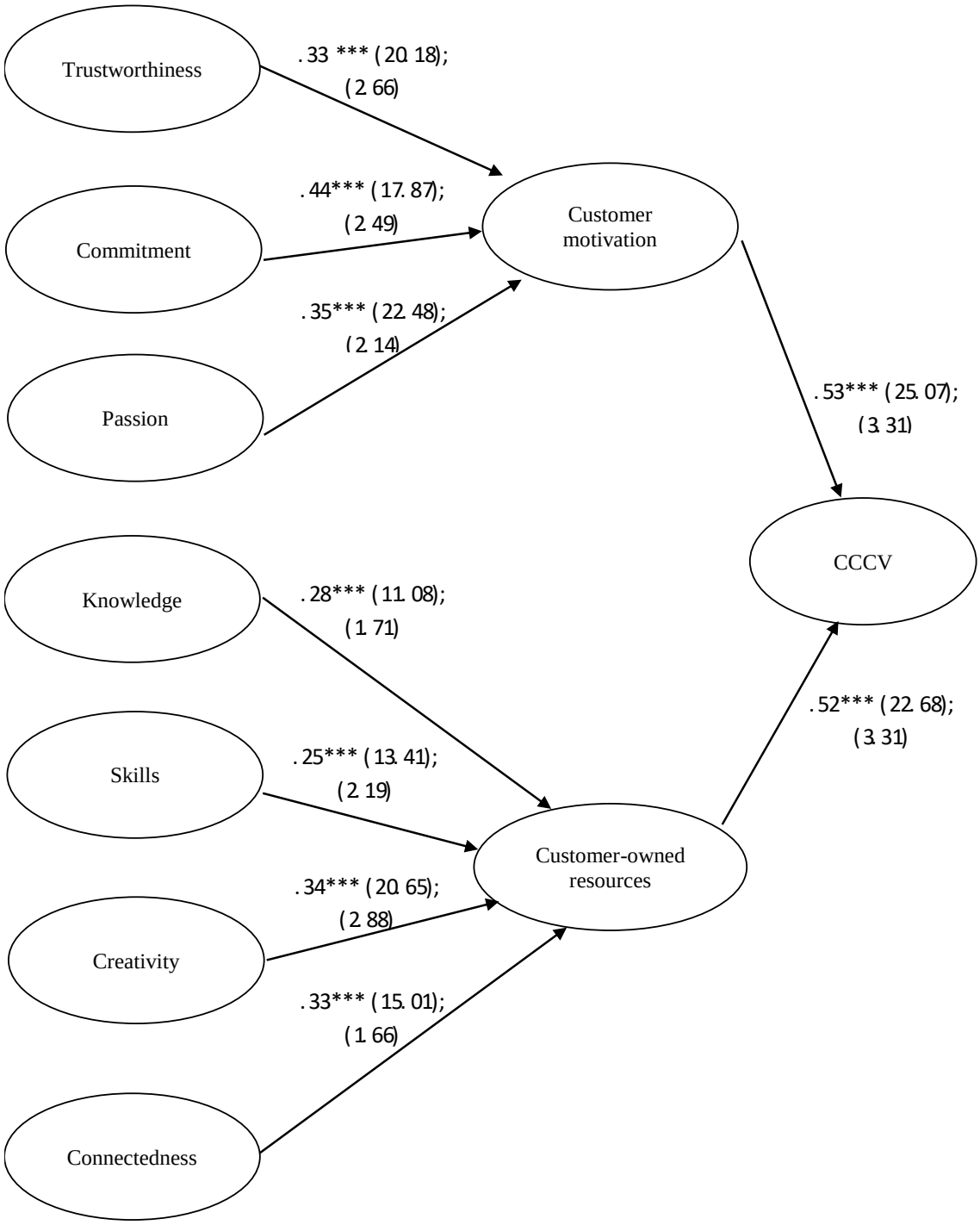
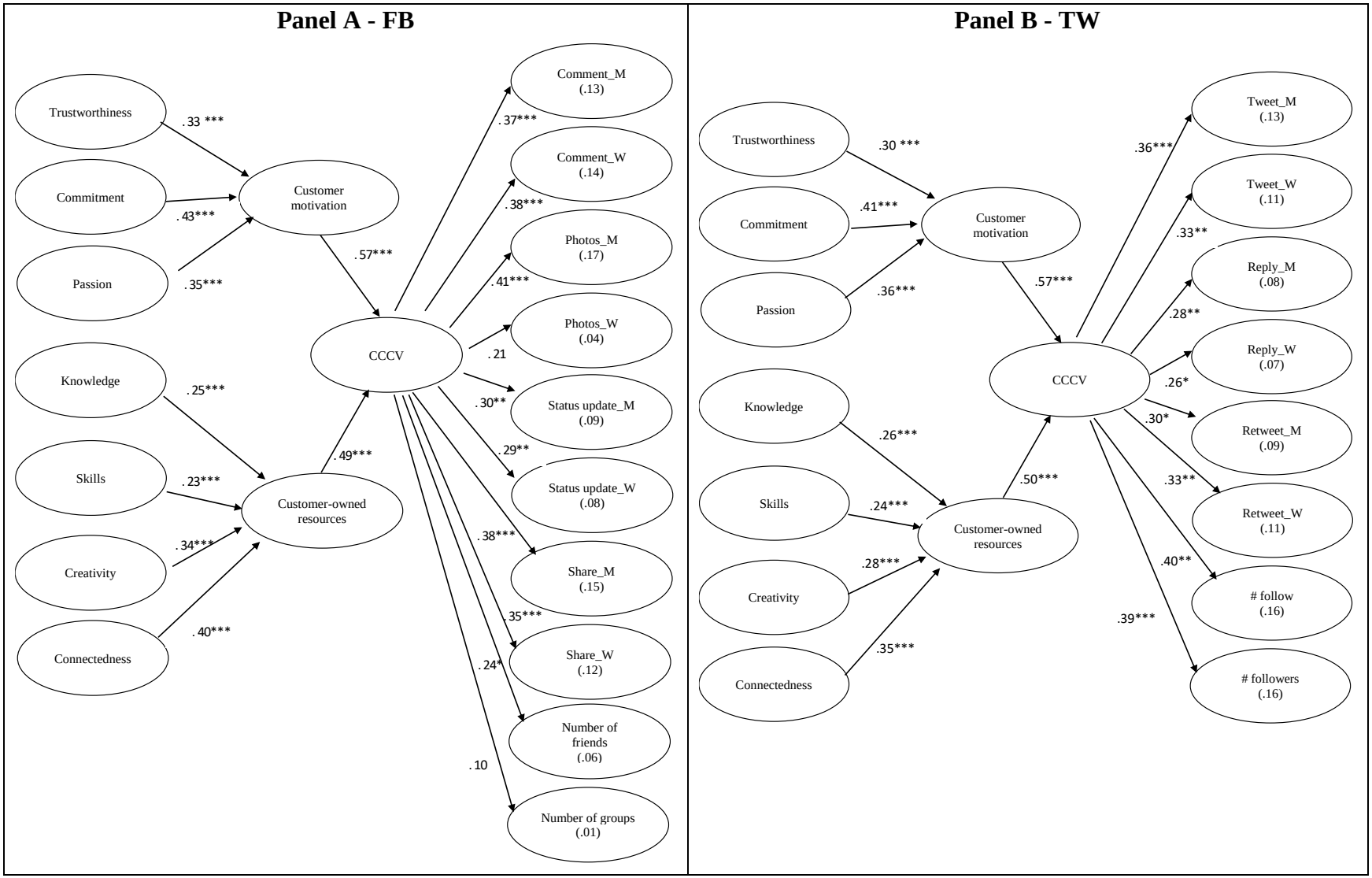


Figure 2. Predictive validity of the CCCV scale on actual behaviors of Facebook users (FB) and Twitter users (TW) (Study 8)



Note: “M” indicates over the last month; “W” indicates over the last week. R Square provided in each dependent variable in parentheses.
* $p < .05$, ** $p < .01$, ***$p < .001$.