

Article

Perceived Sustainability and Customer Engagement in the Online Shopping Environment: The Rational and Emotional Perspectives

Xiao Chen, Xiaojing Sun , Dongwei Yan and Decheng Wen *

School of Management, Shandong University, No. 27, Shanda South Road, Jinan 250100, China; 201412123@mail.sdu.edu.cn (X.C.); 201720296@mail.sdu.edu.cn (X.S.); 201820343@mail.sdu.edu.cn (D.Y.)

* Correspondence: wdc928@sdu.edu.cn

Received: 23 February 2020; Accepted: 27 March 2020; Published: 28 March 2020



Abstract: As increasing numbers of customers pay attention to product and service sustainability when shopping online, more and more firms in the online market engage in promoting perceived sustainability to establish close customer relationships. Prior studies implied the effects of perceived sustainability on transactional customer relationships, however, the role of perceived sustainability in influencing nontransactional customer relationships has received little attention. Drawing on existing conceptual models, this study aimed at exploring the effects of perceived sustainability on rational and emotional customer engagement (CE) in the online shopping environment. The data were collected through a questionnaire survey in China. Using the partial least squares (PLS) approach-based structural equation modeling (SEM) method, the authors found that perceived sustainability positively affects the two CE orientations through influencing short- and long-term transactional attitudes (satisfaction and commitment). A strong interrelationship between rational and emotional CE was also found. This is the first study presenting empirical evidence of the effects of perceived sustainability on nontransactional customer relationships from the rational and emotional perspectives. It also provides critical implications for online sellers in designing engagement programs.

Keywords: perceived sustainability; customer engagement; online shopping

1. Introduction

Customers today pay more attention to product and service sustainability when shopping online [1]. Facing increasing pressures from customers' environment concerns, more and more firms in the online market have engaged in enhancing the customers' perceived sustainability of a product and service to establish close customer relationships [1–3]. For instance, Apple emphasized that the company uses 100% recycled aluminum to make its products and that it provides free recycling service for old devices. By doing so, the customers' perception of Apple's products and service sustainability increased. Most prior studies centered on the effects of perceived sustainability on transactional customer relationships and suggested that it can positively affect customers' purchase intention and evaluation [4–7], while the effects of perceived sustainability on nontransactional customer relationships has received very little attention.

Customer engagement (CE) is a central construct in the field of nontransactional customer relationships [8]. Engaged customers actively participate in activities beyond purchase, such as writing online reviews [9], recommending, helping other customers [10] and/or participating in new product development [11]. Therefore, in the last decade CE has been one of the hottest topics in the customer relationship area for its importance in enhancing customers' nontransactional contribution to a firm [8]. As the online market is increasingly competitive, engaged customers are of great significance to online

sellers. Thus, it is important to understand whether the online sellers' efforts in increasing the perceived sustainability of their product can enhance CE as much as they do with customer-purchase behaviors. However, the effects of perceived sustainability on CE are unclear to date.

Chen, Dahlgaard-Park and Wen [12] recently addressed two engagement orientations: emotional and rational CE. Emotional CE refers to a situation where a customer has a deep emotional attachment to an object (e.g., a firm, a brand or a product) and therefore actively participates in nontransactional activities [13–16]. A fan of iPhones who actively recommends the device to their friends is a typical emotionally engaged customer of Apple. On the other hand, rational CE is developed when a customer participates in engagement activities motivated by external benefits (e.g., financial rewards) [12]. For instance, a customer who recommends a luxury product on social media to build up an ideal self-image is rationally engaged with the product. Most of the relevant studies only focused on the former orientation, while the later one is usually ignored in academic research [12]. Correspondingly, Chen, Dahlgaard-Park and Wen [12] called for more studies on CE with a holistic view of both rational and emotional orientations.

This paper aims at examining the effects of perceived sustainability on rational and emotional CE in the online shopping environment. To date, few studies have contributed to understanding the effects of perceived sustainability on nontransactional customer relationships from both the rational and emotional perspectives. Drawing on several conceptual models [12,17], this paper is the first study providing empirical evidence on this issue, thereby adding to the current sustainability and customer-relationship theory. Online sellers are increasingly eager for customers' engagement contribution [13], and this paper provides them with useful implications for how to design effective CE programs.

In the following section, we review the relative literature and propose hypotheses. After stating the methodology and the results of the data analysis, the conclusions and implications are shown at the end.

2. Literature Review and Hypothesis Development

Rational CE and emotional CE are two relatively new constructs. In the first subsection, therefore, we review the literature on the conceptualization of rational and emotional CE and then present their definitions and discuss their differences. In the second subsection, we review the literature on perceived sustainability and its effects on customer relationships. We adopt the Customer Engagement Cycle model [17] as the theoretical foundation to understand the process of perceived sustainability influencing CE. In the third subsection, we propose the hypotheses and present the research model of the current study.

2.1. Rational and Emotional Customer Engagement

The core of customer engagement is that a customer actively participates in brand/product-related nontransactional activities [12]. The construct of CE was proposed in an era when social networks and new media were becoming highly developed. Social networks empower customers to interact freely with one another and make it easier for them to participate in brand/product-related activities online. Therefore, more and more customers today engage in virtual brand-community discussion [18], post product reviews on shopping websites [9] and make suggestions about product/service improvement to firms [8]. CE directly contributes to firms by promoting word of mouth and value cocreation, as well as indirectly benefiting firms through enhancing customer loyalty and repurchase behaviors [19]. Thus, firms in the online market especially strive to increase CE.

In the relative literature, CE is typically defined as "a customer's attitudinal and behavioral investment in the nontransactional interaction with a focal object" (i.e., a firm, a brand or a product) [12,16,20]. In this definition, the attitudinal investment consists of customers' cognitive, emotional and behavioral intentional investment. Cognition and emotion are the two primary intrinsic drivers of a customer's behavior [21]. *Rational customer engagement* refers to the situation where a customer's engagement

attitude and behavior are dominated by their cognition, which focuses on the external benefits (e.g., thinking of the benefits and costs of attending engagement activities) [12]. *Emotional customer engagement* refers to the situation where the customer's engagement attitude and behavior are dominated by their emotion, which is based on internal attachments to an object (e.g., feeling passionate and desiring to contribute to an object) [13].

The differences between the two CE orientations can be observed from the perspective of the motivations. Prior studies indicated that rational CE is motivated by extrinsic factors [12], such as gaining financial rewards [10,18,19], building up ideal self-image, avoiding social pressure [22] and seeking assistance [10]. On the other hand, emotional CE is motivated by intrinsic factors, such as emotional attachment, enjoyment [12], brand passion [18,19] and affective commitment [10] to a focal object [22].

The distinctions between the motivations for rational and emotional CE lead to different behavior patterns. Based on Organismic Integration Theory [22], rationally engaged customers who are motivated by extrinsic factors will perform with lower initiatives and autonomy. These customers usually just complete the single firm-designed task and their actions are short lived [8]. In contrast, the motivations of emotionally engaged customers are intrinsic, which will cause more active, autonomous and persistent behaviors [22]. These customers usually show more creativity and passion when participating in brand-related activities [8].

The discussion above reveals the significance of this paper. In order to increase CE levels and to maximize engagement values, it is important for firms to understand the differences between the two CE orientations. Despite a small number of studies [10,12,18,19] that provided insights into rational and emotional CE theoretically, empirical studies on this issue are still lacking. This study contributes to filling this research gap.

2.2. From Perceived Sustainability to Customer Engagement

Sustainability is typically considered with three dimensions: economy, society and environment [23]. Economic-sustainability research focuses on firms' financial performance [24]. From the perspective of social sustainability, the research centers on corporate social responsibility [24]. Sustainability's environmental dimension, however, concentrates on the preservation of the natural environment [25]. The construct of perceived sustainability in this paper was considered from the point of view of a customer who cares more about whether products and services are based on environment-friendly materials [1]. Therefore, the environmental perspective of sustainability was taken in this paper. We defined *perceived sustainability* as a customer's perception of the environment-related characters and performances of a product and/or service.

As firms increasingly provide sustainable products and services in response to customers' environment concerns [1], numerous studies have discussed the effects of product/service sustainability on customer relationships. The focuses of these studies included customer identification and loyalty to sustainable firms [26,27], customers' willingness to pay for sustainable products [4] and customers' evaluation of firms' environment-friendly practices [5–7]. Despite the voluminous studies in the transactional context, the effects of perceived sustainability on nontransactional customer relationships, such as CE, have received very little attention.

To explore the effects of perceived sustainability on CE, it is important to understand the developing process of CE and the role of perceived sustainability in the development. Among the publications in the relative area, Sashi's [17] Customer Engagement Cycle model (see Figure 1) is one of the earliest theoretical models focusing on the developing process of CE. The cycle starts with the perceiving stage, then goes through the satisfaction stage and the commitment stage, and then finally reaches the engagement stage. After the last stage, it goes back to the first stage indicating the beginning of the next CE cycle.

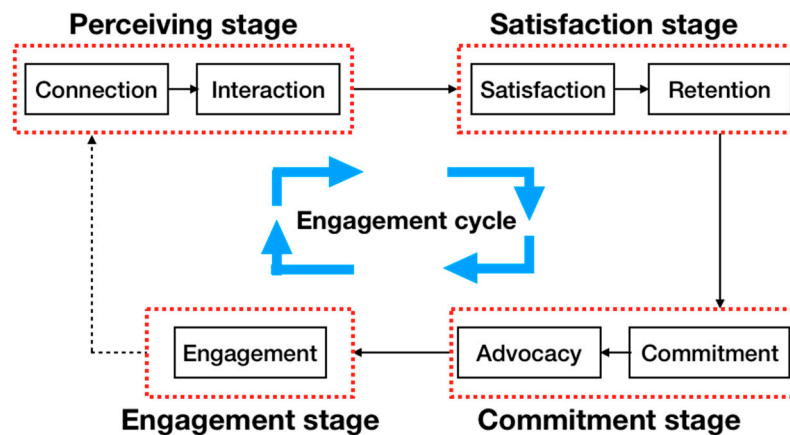


Figure 1. Customer Engagement Cycle model, adapted from Sashi (17).

The *perceiving stage* includes connection and interaction between the customer and a focal object (e.g., a firm, a brand and/or a product). It is the starting point of all transactional and nontransactional relationships. In this stage, online sellers use every method (e.g., advertising, social media and online brand communities) to reach potential and existing customers and to deliver the offering information (e.g., made by recycled materials) to the customers [28]. The customers will process the information they received and then evaluate the performance of the offerings. The customers' perceived sustainability of the offerings subsequently appears [26]. If a customer decides to purchase the offering, the feelings of satisfaction or disappointment will appear naturally, which leads to the second stage.

The *satisfaction stage* focuses on customers' immediate feelings and short-term attitudes to a focal object after purchase [29]. It is the direct consequence of the customer's evaluation of the offering performance. If the sustainable quality of the offerings and shopping service meets their needs, the customers are satisfied and stay in connection with the online sellers rather than leaving [26]. The customer's positive attitude to an object in this stage is unstable and fragile. Just one service failure can easily make the customer feel unsatisfied and disappointed, causing them to quit from the connection [30]. Once the customer decides to retain the relationship with an object, the long-term transactional attitude emerges and the CE cycle moves to the third stage.

The *commitment stage* centers on customers' long-term attitudes to a focal object. In this stage, the customers believe their transactional relationships with a focal object are so important that they try to maintain them [31]. Different from the former stage, customers' attitudes in the commitment stage are stable and strong. The customers are stuck to an object and will not easily leave even when service failures occur [32]. Although the focus of this stage is still on the transactional context, the customers' advocacy can be so strong that their passion for an object is extended to the nontransactional situation, which leads them to the fourth stage [17].

In the *engagement stage*, the focus shifts from transaction to nontransaction and the customer turns from a passive value receiver to an active value cocreator [33]. Being intrinsically and/or extrinsically motivated, the customer positively shares offering-related information with others, provides feedback about product improvement to online sellers, and helps other customers in the virtual brand communities [10]. The engagement stage relies on the former three transaction-based stages. Spanning the perceived sustainability stage, the short-term satisfaction stage, the long-term commitment stage and finally the nontransactional engagement stage, the four stages together imply the development of customer engagement [34].

Sashi's [17] model indicates a causal chain: perceived sustainability-satisfaction-commitment-engagement. The casual chain starts with the firm-based factor (perceived sustainability), goes through the short- and long-term customer transactional attitudes (satisfaction and commitment) and finally reaches the nontransactional state (engagement). The comprehensive model clearly describes the CE

developing process and the role of perceived sustainability in this process, therefore the model was taken as one of the theoretical foundations for this study.

2.3. Hypothesis Development

This paper aimed at exploring the effects of the perceived sustainability of products and services on rational and emotional customer engagement in online shopping. Following the causal chain “perceived sustainability-satisfaction-commitment-engagement” suggested by Sashi [17], we now shift to discussing the relationships between the focal constructs to respond to our research question. The theoretical model is shown in Figure 2.

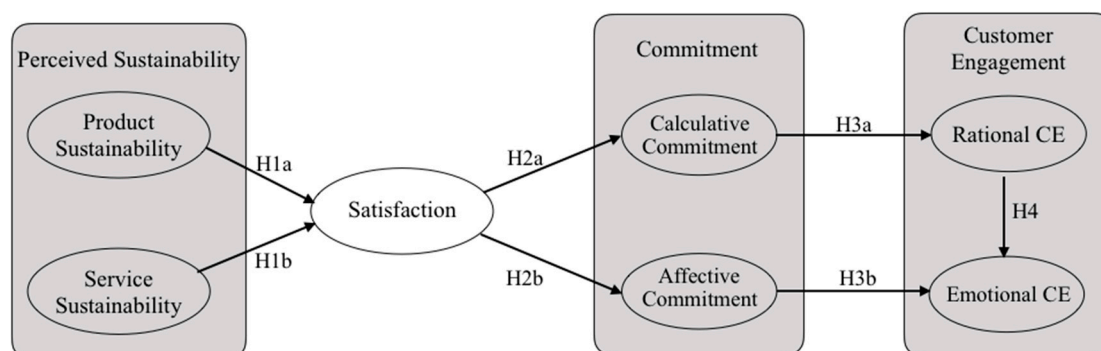


Figure 2. Research model.

Satisfaction is typically defined as “a customer’s overall evaluation of the performance of an offering” [32]. As customers pay increasing attention to an offering’s sustainability [1], it becomes a primary driver of customer satisfaction in online shopping [5,6,35]. Among offerings with similar quality and price, the one using more sustainable materials leads to higher customer satisfaction [36]. Moreover, shopping-service sustainability also affects the customers’ overall satisfaction. Except for environment-friendly products [37], customers also expect online sellers to provide green product delivery, the authentic exhibition of offerings on their websites, and recycled packing materials [38–40]. Enhanced service sustainability also leads to higher customer satisfaction [41]. Taken together, we propose that in the online shopping environment:

H1a. *Product sustainability has a positive effect on satisfaction.*

H1b. *Service sustainability has a positive effect on satisfaction.*

Commitment refers to “an exchange partner believing that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it” [30]. The core of the construct is that customers try to maintain their transactional relationships with an object [31]. In relevant research, a typology of affective commitment and calculative commitment has been well accepted [42–44]. Affective commitment occurs when a customer maintains a transactional relationship because of their positive emotional attachments to an online seller [45]. In contrast, calculative commitment refers to the situation where a customer keeps a transactional relationship with an online seller because of high switching costs or lack of a better choice [42].

Customers’ short-term satisfaction strongly affects their willingness to establish long-term relationships with online objects [32]. Satisfaction shows the ability of an online object to meet customers’ needs. On the one hand, when satisfaction is enhanced, a customer develops more positive affection to a focal object and further reinforces affective commitment. That is to say, higher satisfaction will lead to higher affective commitment [46]. On the other hand, enhanced satisfaction makes it harder for a customer to find an alternative for an object, giving the customer more rational reasons to keep the

exchange relationship. In other words, higher satisfaction will improve calculative commitment [29]. Subsequently, we propose that in the online shopping environment:

H2a. *Satisfaction has a positive effect on calculative commitment.*

H2b. *Satisfaction has a positive effect on affective commitment.*

Commitment and customer engagement are significantly different from each other [47]. Based on the definition in this paper, commitment refers to a customer's strong intention to keep the transaction relationship with a focal object [32], while CE refers to a customer's attitudinal and behavioral investment beyond purchase [16]. At its core, commitment is a pure attitudinal construct in the transactional context, while CE is a construct comprising both attitudinal and behavioral dimensions in the nontransactional context. Bowden [34], Van Doorn, Lemon, Mittal, et al. [10], and Brodie, Hollebeek, Jurić, et al. [13] all discussed the differences between the two constructs and stated that commitment is a potential antecedent of CE. The proposition has been empirically examined and supported by the research in the insurance industry [48] and the business-to-business (B2B) context [49]. However, relationships between the individual dimensions of commitment and CE in online shopping have not yet been studied.

Calculative commitment and rational CE are both economic-based constructs [12,44]. When a customer perceives that it is more beneficial to keep a transactional relationship with an object rather than to terminate it, calculative commitment is developed [50]. The calculative transactional attitude implies a cognition-dominated decision pattern of a customer, which can be extended to the nontransactional situation [51]. A customer with a cognition-dominated decision pattern is more likely to be attracted by perceived engagement benefits and to attend engagement activities beyond purchase [10]. That is to say, higher calculative commitment indicates higher possibility of a customer being rationally engaged with an object.

Despite focusing on transactional and nontransactional contexts respectively, affective commitment and emotional CE are both built on customers' emotional attachments to focal objects [32,49]. High affective commitment indicates a stronger emotional and psychological connection between a customer and a focal object in the transactional situation [32], which can affect the customer's attitude and behavior in the nontransactional environment [17]. For example, a deeply committed customer of iPhones will passionately share their positive feelings of the device with others and will actively recommend it when their friends ask for a mobile phone recommendation. In other words, higher affective commitment will lead to higher emotional CE. Therefore, we propose that:

H3a. *Calculative commitment has a positive effect on rational CE.*

H3b. *Affective commitment has a positive effect on emotional CE.*

The primary difference between the two CE orientations is that rational CE is cognitive while emotional CE is affective. Rationally engaged customers are extrinsically motivated by the financial and/or nonfinancial rewards [12,19], while emotionally engaged customers are intrinsically motivated by their deep emotional attachments to a focal object [12,14].

Despite their differences, the two CE orientations are interrelated. People's cognition influences their affection [52]. In other words, what people think affects how people feel [21]. If a customer always thinks of the benefits of engaging with an online seller, a positive feeling about the online seller will appear [53], which may lead to an emotional attachment over time. Since rational and emotional CE are cognitive and affective in nature, respectively, the former is supposed to have a positive effect on the latter based on the broadly accepted "cognition-affection" casual chain [50].

The effect of rational CE on emotional CE can also be explained from the opportunity perspective. When a customer is rationally engaged with an online seller, they will interact with the seller more

frequently than nonengaged customers [10]. Thus, the customer has more opportunities to be well served and delighted by an online seller and their emotional attachments will be further enhanced [12]. That is to say, the more a customer is rationally engaged, the more likely they are to be emotionally engaged. Taken together, we propose that:

H4. *Rational CE has a positive effect on emotional CE.*

3. Methodology

3.1. Data Collection

A snowball online questionnaire survey was implemented to collect the data. The questionnaire was hosted by a professional survey website (www.wenjuan.com) in China and spread through email and social media. We first implemented the survey in two Master of Business Administration (MBA) classes with 62 students in a local university. All respondents were then encouraged to spread the questionnaire to their friends. By doing so, 543 questionnaires were collected from March to April 2019. We excluded 15 questionnaires with obvious faults, such as those that were finished within 30 s or those that had chosen the same answer for all each item. The remaining 528 questionnaires were carried on to be analyzed.

At the beginning of the survey, the respondents were asked to recall one of their most impressive online shopping experiences and to confirm the category of the product in their chosen experiences. The respondents were then asked to answer questions about their shopping experiences. Finally, they were asked to state their gender, age, education and online shopping experience. Table 1 shows the respondents' demographic information.

Table 1. Statistics of sample information.

Measure	Items	Percentage	Measure	Items	Percentage
Gender	Female	57.95%	Online shopping experience (year)	<1	1.52%
	Male	42.05%		1–3	8.33%
	<18	0.76%		3–5	24.24%
	18–25	27.65%		5–7	29.92%
Age	26–30	38.26%	7–9	18.56%	
	31–40	20.83%	>9	17.42%	
	41–50	8.71%	Electronics	27.65%	
	51–60	3.41%	Clothing	33.33%	
	>60	0.38%	Product type	Personal care	12.88%
	High school	4.55%		Books	11.74%
Education	College or university	82.58%		Food	6.06%
	Graduate school	12.88%	Others	8.33%	

We compared the data of early and late respondents to evaluate the nonresponse bias [54]. There were no significant differences found in terms of the respondents' demographics, including age, education, gender and online shopping experience ($p > 0.10$), which confirms that nonresponse bias is not a threat to this research. To assess the common method bias, a two-step procedure was used. First, we performed factor analysis and got 6 factors, with the first factor accounting for 29% of the covariation, which is lower than 50% [55]. Second, we performed the partial correlation procedure with "website usefulness" as the maker variable. We tested the standardized regression weights with and without the maker variable [55]. The results showed that the parameters did not change significantly when including the maker variable. The tests confirmed no serious common method bias problems in this study.

3.2. Measurement Development

The measurement items of the constructs were heavily adopted from existing literature but adapted to fit the context of this research.

We adopted three items from Kianpourm, Jusoh and Asghari [37] to measure product sustainability and three items from Kim, Taylor, Lee, et al. [3] to measure online shopping service sustainability. We adopted three items from Fornell, Johnson, Anderson, et al. [56] to measure satisfaction. Calculative and affective commitment were both measured by three-items scales adopted from Verhoef, Franses and Hoekstra [44].

To date, there are no widely accepted scales for rational and emotional CE. Based on the study of Chen, Dahlgaard-Park and Wen [12], we developed a 7-item measurement model including 4 items for rational CE and 3 items for emotional CE (see Appendix A). Three experts of customer relationship management were invited to evaluate the face validity of the measurement model. The expressions of some items were changed based on the experts' suggestions. As the investigation was performed in China, the English items were translated into Chinese and then translated back into English to confirm the consistent expression of the items in the two languages [28].

There were 22 items in the final questionnaire (see Appendix A) where the 7-point Likert scale was used in all measurement items ranging from strongly disagree (1) to strongly agree (7).

3.3. Data Analysis Method

We adopted partial least squares (PLS) approach-based structural equation modeling (SEM) in this research. PLS-SEM requires a minimum sample size and has flexibility in distributional assumptions [11]. PLS-SEM also has its advantages in building theory and handling complex models with numerous constructs [57]. Therefore, PLS-SEM analysis was performed in this study. We used SmartPLS 3.0 (SmartPLS GmbH, Boenningstedt, Germany, 2015) as the analysis software [58].

4. Data Analysis Results

4.1. The Validity and Reliability of the Measurement Model

The results of the reliability tests (see Table 2) show that the individual Cronbach's alpha coefficients of the constructs ranged from 0.774 to 0.871 greater than 0.7 [57], and the composite reliability values ranged from 0.859 to 0.920, exceeding the commonly recommended threshold of 0.7 [59,60]. Therefore, the measurement model had satisfactory reliability.

Table 2. Reliability and discriminant validity assessment.

	Constructs	Cr. α	C. R.	1.	2.	3.	4.	5.	6.	7.
1.	Affective Commitment	0.779	0.872	0.834						
2.	Calculative Commitment	0.774	0.868	0.452	0.829					
3.	Emotional customer engagement (CE)	0.814	0.890	0.393	0.270	0.854				
4.	Satisfaction	0.871	0.920	0.679	0.273	0.363	0.892			
5.	Product Sustainability	0.807	0.887	0.427	0.133	0.289	0.614	0.851		
6.	Rational customer engagement (CE)	0.781	0.859	0.253	0.236	0.547	0.176	0.145	0.778	
7.	Service Sustainability	0.865	0.918	0.254	0.030	0.111	0.449	0.462	-0.038	0.889

We compared the square root of the average variance extracted (AVE) values of the construct with the cross-correlation to assess the measurement model's discriminant validity. Table 2 shows that the diagonal square roots of the AVE values were greater than the cross-correlation, indicating sufficient discriminant validity [61]. The variance inflation factor (VIF) values of all items were below the critical level of 5 [57].

Factor loading and AVE were used to assess the measurement model's convergent validity. Table 3 shows that the factor loading values ranged from 0.699 to 0.915. Hulland [62] suggests to retain items with loading higher than 0.7 and to remove items with loading lower than 0.4. In our sample, only the

factor loading of RCE1 (see Table 3, 0.699) was slightly lower than 0.7. Hair, Hult, Ringle, et al. [57] suggest that if dropping the items with loading between 0.4 and 0.7 doesn't improve the composite reliability beyond 0.7, the items can be retained. In our case, when retaining RCE1 the composite reliability of rational CE was 0.859, sufficiently greater the threshold of 0.7. Moreover, the item of RCE1 contributed to the content validity of the measures of rational CE. Taken together, all the items including RCE1 were retained. We performed the Bootstrap algorithm ($N = 5000$) to evaluate the significance of the outer measurement models. Table 3 shows that the t-values were all greater than 1.96. The constructs' AVE values (ranging from 0.605 to 0.795) were above the commonly recommended threshold of 0.5 [61]. All the results together indicate adequate convergent validity of the measurement model.

Table 3. Convergent validity assessment.

Constructs	Items	Factor Loading	t-Values
Product Sustainability (AVE = 0.725)	PS1	0.773	13.508
	PS2	0.871	34.363
	PS3	0.904	60.320
Service Sustainability (AVE = 0.791)	SS1	0.781	16.767
	SS2	0.942	55.327
	SS3	0.936	79.634
Customer Satisfaction (AVE = 0.795)	CS1	0.840	28.613
	CS2	0.921	70.041
	CS3	0.913	62.036
Affective Commitment (AVE = 0.695)	AC1	0.900	67.724
	AC2	0.830	30.076
	AC3	0.765	19.315
Calculative Commitment (AVE = 0.688)	CC1	0.775	8.930
	CC2	0.850	11.713
	CC3	0.861	13.200
Emotional CE (AVE = 0.729)	ECE1	0.819	25.004
	ECE2	0.881	42.705
	ECE3	0.861	39.541
Rational CE (AVE = 0.605)	RCE1	0.699	13.928
	RCE2	0.860	40.755
	RCE3	0.770	18.364
	RCE4	0.774	23.503

4.2. Structural Model

Table 4 shows model fit indexes including co-efficient of determination (R^2), effect size (f^2) and predictive relevance (Q^2). The R^2 scores indicate the portions of the constructs variance that can be explained by the model. The results indicate that our model accounted for sufficient portions of the variance of satisfaction, affective commitment and emotional CE with their R^2 scores of 0.412, 0.462 and 0.369, respectively [60], but portions of the variance of calculative commitment ($R^2 = 0.075$) and rational CE ($R^2 = 0.056$) were weaker.

The f^2 values are used to assess the effects of a focal construct in contrast with a model without it [11,57]. In our model, product sustainability and service sustainability had large and small effect sizes on satisfaction with f^2 values of 0.357 and 0.059 (see Table 4) [63]. Satisfaction had a large effect size on affective commitment ($f^2 = 0.858$) but a small effect size on calculative commitment ($f^2 = 0.081$). Calculative commitment had a small effect size on rational CE ($f^2 = 0.059$). Affective commitment and rational CE had small and large effect sizes on emotional CE, respectively ($f^2 = 0.110, 0.340$).

We used the Stone-Geisser Q^2 to evaluate the predictive relevance of this model with Q^2 values greater than 0 indicating predictive relevance. The Q^2 values were calculated by the standard blindfolding procedure with an omission distance of 7 [57]. As shown in Table 4, the Q^2 values for satisfaction, affective commitment, calculative commitment, rational CE and emotional CE were 0.305,

0.301, 0.041, 0.031 and 0.254, respectively, greater than 0. Taken together, the results indicate a sufficient fit of the presented model.

Table 4. Model fits.

	R ²	Q2	f ²					
			PS	SS	CS	CC	AC	RCE
Customer Satisfaction	0.412	0.305	0.357	0.059				
Affective Commitment	0.462	0.301			0.858			
Calculative Commitment	0.075	0.041			0.081			
Rational CE	0.056	0.031				0.059		
Emotional CE	0.369	0.254					0.110	0.340

Notes: R2: co-efficient of determination; Q2: predictive relevance; f2: effect size on endogenous construct; PS: product sustainability; SS: service sustainability; CS: customer satisfaction; CC: calculative commitment; AC: affective commitment; RCE: rational customer engagement. Interpretation: Q2 greater 0 indicates predictive relevance; f² > 0.35 large effect sizes; f² > 0.15 medium effect sizes; f² < 0.15 small effect sizes.

4.3. Hypothesis Testing

We used PLS-SEM to test the seven proposed hypotheses (H1a, H1b, H2a, H2b, H3a, H3b and H4). Table 5 shows the results of the structural model test. All of our hypotheses are statistically supported (t-values > 1.96, $p < 0.05$). The significant path coefficients (β -values) range from 0.211 to 0.679.

Table 5. Structural equation modeling (SEM) analysis results.

	Hypothesis	β -Values	t-Values	p	Results
H1a	Product Sustainability-> Satisfaction	0.516	6.827	0.000	Supported
H1b	Service Sustainability-> Satisfaction	0.211	3.051	0.002	Supported
H2a	Satisfaction -> Calculative Commitment	0.273	3.386	0.001	Supported
H2b	Satisfaction -> Affective Commitment	0.679	14.446	0.000	Supported
H3a	Calculative Commitment -> Rational CE	0.236	3.235	0.001	Supported
H3b	Affective Commitment -> Emotional CE	0.272	5.170	0.000	Supported
H4	Rational CE -> Emotional CE	0.478	9.586	0.000	Supported

The PLS-SEM analysis results imply the positive effects of the perceived sustainability of products and services on customer satisfaction in the online shopping environment (H1a, b). The extents of the effects, however, are different. The results show that product sustainability ($\beta = 0.516$, $t = 6.827$; see Table 5) has a higher effect on satisfaction than online shopping service sustainability ($\beta = 0.211$, $t = 3.051$).

The positive effects of customer satisfaction on calculative and affective commitment are both supported (H2a, b). It was found that satisfaction has more pronounced influences on affective commitment than calculative commitment. The results show that the effect of satisfaction on affective commitment ($\beta = 0.679$, $t = 14.446$) is stronger than its effect on calculative commitment ($\beta = 0.273$, $t = 3.386$). The effects of commitment on customer engagement are also supported (H3a, b). The results show that calculative commitment has a significant effect on rational CE ($\beta = 0.236$, $t = 3.235$), as does affective commitment to emotional CE ($\beta = 0.272$, $t = 5.170$).

Moreover, our research also confirms the interrelationship between the two customer engagement orientations (H4). It is shown that the effect of rational CE on emotional CE is significant ($\beta = 0.478$, $t = 9.586$).

5. Conclusions and Implications

This paper aimed at exploring the role of perceived sustainability in the development of CE. Drawing on Sashi's [17] Customer Engagement Cycle model, this research examined the relationship between perceived sustainability, satisfaction, commitment and customer engagement with a focus on online shopping. The analysis and discussion above lead to two conclusions.

First, perceived sustainability can positively affect CE through influencing customer satisfaction and commitment in the online shopping environment. The finding confirms the casual chain of “perceived sustainability-satisfaction-commitment-customer engagement” [17]. It indicates the affecting routes from the short-term relationship (i.e., satisfaction) to the long-term relationship (i.e., commitment and engagement) and from the transactional relationship (i.e., satisfaction and commitment) to the nontransactional relationship (i.e., engagement).

Second, there are both differences and connections between the rational and emotional orientations of customer relationships. This study indicates that the effects of perceived sustainability on emotional relationships (i.e., affective commitment and emotional CE) and rational relationships (i.e., calculative commitment and rational CE) are different. The former effect is stronger than the later one. However, the effects of the single dimensions of commitment on CE (i.e., affective commitment on emotional CE; calculative commitment on rational CE) are found to be similar. In addition, we found a strong effect of rational CE on emotional CE. These findings imply that further research on the issue of rational and emotional customer relationships is needed.

This study contributes to the literature in two aspects. The first contribution lies in extending the research of sustainability from the transactional context to the nontransactional context. Unlike most prior studies that explored the effects of perceived sustainability on customers’ transactional attitude and behaviors [4–7], this paper is the first study that examined the role of perceived sustainability in the development of CE that is beyond purchase. Following Sashi’s [17] theoretical model, this study empirically confirms that perceived sustainability has a positive effect on CE through influencing satisfaction and commitment. The current study provides further insights into understanding the relationship between perceived sustainability and customer attitude and behaviors in both transactional and nontransactional contexts.

Despite the contribution of this paper, current studies focusing on the roles of sustainability in the nontransactional context are far from enough. We therefore call for more attention to this issue. This study examined the effects of perceived sustainability on general engagement activities. Future research should shift to specific engagement forms and nontransactional behavior outcomes, such as word of mouth, recommendation, and value cocreation. It is also critical to explore the effects of potential mediation and moderation factors, such as the product and service type, the industry, the personal characteristics and the cultural background.

The second theoretical contribution is that from the rational and emotional perspectives, this study provided a holistic approach to capture different customer engagement orientations. This study indicates that it is important to understand CE from both the rational and emotional perspectives since customers with various engagement orientations interact with objects in different ways. Drawing on Chen, Dahlgard-Park and Wen [12], this paper confirms the interrelationship between rational and emotional CE. Although rationally and emotionally engaged customers are differently motivated to participate in engagement activities, higher rational CE will lead to higher emotional CE. Different from most prior studies, which only focused on emotional CE [12], this study took a further step to provide a holistic view to understand CE from both the rational and emotional perspectives and to empirically test the relationship between the two CE orientations.

As the constructs of rational and emotional CE are recently proposed [12], there are a lot of topics on this issue deserving attention. From the perspective of the customer, it is important to examine the different motivations for rational and emotional CE. When participating in engagement activities, rationally and emotionally engaged customers will need different abilities and resources such as creativity, product knowledge, persuasion ability and network resources [8]. How will these engagement abilities and resources influence the two CE orientations? Do customers with different orientations tend to perform different behaviors because of the limitation of abilities and resources? The behavioral experiment will be an appropriate research method to answer these questions. From the business perspective, it is critical to explore how firm-based factors (e.g., corporate social responsibility and brand reputation) influence both rational and emotional CE. How should firms design different

programs to enhance rational and emotional CE? How should firms treat rationally and emotionally engaged customers differently? What are the costs and values of capturing and maintaining a rationally and emotionally engaged customer? How should firms decide the proportion of the two kinds of engaged customers to gain the maximum benefits?

Equally, our research provides critical managerial implications for online sellers who are working on improving their CE levels to attain engagement values. The value of engaged customers has been widely recognized [64], however, most firms are still exploring how to improve engagement levels. This study offers firms with an effective method to engage customers in online shopping. With the increasing concerns on social and environmental issues, customers have a more positive attitude toward sustainable products and services. This study indicates that improving the perceived sustainability of the product and service in online shopping will enhance both the transactional and nontransactional customer relationships. Specifically, online sellers should emphasize the sustainable characters of their products and services in the online exhibition. For example, they should post environmental certifications more conspicuously on their website and use green elements to increase customers' perceived sustainability of the offerings.

Another managerial implication for online sellers is that they should take both the rational and emotional orientations of CE into consideration when making engagement strategies. This paper indicates that rational and emotional CE have a strong interrelationship. Thus, implementing mixture strategies with the focus on both rational and emotional CE is more effective than implementing a single strategy. For instance, some online sellers encourage customers to write reviews of the products by providing a bonus. However, customers' engagement behaviors only last for a short time in this case. It is preferable to leave humorous and interesting responses to the customers' reviews to delight these customers internally so that their rational and emotional engagement will be enhanced hand in hand. This study indicates that online sellers should implement mixture engagement strategies that focus on both the rational and emotional CE to gain engagement value more effectively.

6. Limitations

The following aspects of the limitations of our study need to be considered. First, this study only focused on positive CE. It would be interesting to extend this study to negative CE, for example, exploring whether higher perceived sustainability restrains dissatisfaction and disengagement after service failure occurs.

Second, this study only examined the causal chain of perceived sustainability-transactional constructs-customer engagement. Sashi's [17] CE cycle model indicated that the CE development process is a dynamic and iterative loop. It implied that CE may affect its antecedents in return [13]. Therefore, future studies should explore how CE influences perceived sustainability as well as transactional customer relationship.

Third, this study only focused on the e-retailing industry and the investigation was only carried out in one country. The data were collected through a snowball questionnaire survey, which made the sample less representative. The findings of this study may not be generally applicable in other study contexts or in the entire population. Future studies should extend the study to more industries such as tourism, banking and airline industry and validate the findings in cross-culture contexts. The random sampling method should also be implemented to collect data.

Author Contributions: Conceptualization, methodology, formal analysis, writing—original draft preparation, X.C.; data curation, investigation, X.S.; D.Y.; writing—review and editing, supervision, project administration, funding acquisition, D.W. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the National Natural Science Foundation of China, grant number 71472111 and the National Social Science Fund of China, grant number 18ZDA079.

Acknowledgments: The authors thank the five reviewers and the editors for their constructive comments on the revision of the paper.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. The measurement items of the focal constructs.

Constructs	Sources of Items	Items
Product Sustainability	Kianpour, Jusoh and Asghari [37]	PS1: The product is friendly to environment and harmless for nature. PS2: The product has environmental certification for saving energy.
Service Sustainability	Kim, Taylor, et al. [3]	PS3: The product is green and harmless for human. SS1: The online seller offers green delivery service. SS2: The online seller uses recycled packing materials for delivery. SS3: The online seller invests for the environment.
Satisfaction	Fornell, Johnson, Anderson, et al. [56]	CS1: overall, I am satisfied with the product and shopping service. CS2: The performance of product exceeds my expectation. CS3: Compared with other products, this is a good choice.
Affective Commitment	Verhoef, Franses and Hoekstra [44]	AC1: Because I feel a strong sense of belonging with the product, I want to keep the transactional relationship with the product. AC2: Because I feel a strong attachment to the product, I want to keep the transactional relationship with the product. AC3: I am a loyal buyer of the product.
Calculative Commitment	Verhoef, Franses and Hoekstra [44]	CC1: I remain a customer of the product because it costs much time and energy to switch to another product. CC2: I remain a customer of the product because I don't have other choices. CC3: Because it is difficult to stop using the product, I remain a customer of the product.
Emotional CE	Originally developed based on Chen, Dahlgaard-Park and Wen [12]	ECE1: I participate in the engagement activities because they benefit the company and/or other customers. ECE2: Because I love the product, I participate in the engagement activities. ECE3: I participate in the engagement activities because they are interesting.
Rational CE	Originally developed based on Chen Dahlgaard-Park and Wen [12]	RCE1: I participate in the engagement activities because I can attain financial rewards. RCE2: I participate in the engagement activities because it makes me feel being in the same group with others. RCE3: I participate in the engagement activities because I can get information to use the product better. RCE4: I participate in the engagement activities because it makes a good impression on other people.

References

- Leonidou, C.N.; Katsikeas, C.S.; Morgan, N.A. "Greening" the marketing mix: Do firms do it and does it pay off? *J. Acad. Mark. Sci.* **2013**, *41*, 151–170. [[CrossRef](#)]
- Menguc, B.; Auh, S.; Ozanne, L. The interactive effect of internal and external factors on a proactive environmental strategy and its influence on a firm's performance. *J. Bus. Ethics* **2010**, *94*, 279–298. [[CrossRef](#)]
- Kim, J.; Taylor, C.R.; Kim, K.H.; Lee, K.H. Measures of perceived sustainability. *J. Glob. Sch. Mark. Sci.* **2015**, *25*, 182–193. [[CrossRef](#)]
- Van Doorn, J.; Verhoef, P.C. Willingness to pay for organic products: Differences between virtue and vice foods. *Int. J. Res. Mark.* **2011**, *28*, 167–180. [[CrossRef](#)]
- Galbreath, J.; Shum, P. Do customer satisfaction and reputation mediate the CSR–FP link? Evidence from Australia. *Aust. J. Manag.* **2012**, *37*, 211–229. [[CrossRef](#)]
- Chung, K.H.; Yu, J.E.; Choi, M.G.; Shin, J.I. The effects of CSR on customer satisfaction and loyalty in China: The moderating role of corporate image. *J. Econ. Bus. Manag.* **2015**, *3*, 542–547. [[CrossRef](#)]

7. Liu, M.T.; Wong, I.A.; Shi, G.; Chu, R.; Brock, J.L. The impact of corporate social responsibility (CSR) performance and perceived brand quality on customer-based brand preference. *J. Serv. Mark.* **2014**, *28*, 181–194.
8. Harmeling, C.M.; Moffett, J.W.; Arnold, M.J.; Carlson, B.D. Toward a theory of customer engagement marketing. *J. Acad. Mark. Sci.* **2017**, *45*, 312–335. [[CrossRef](#)]
9. Thakur, R. Customer engagement and online reviews. *J. Retail. Consum. Serv.* **2018**, *41*, 48–59. [[CrossRef](#)]
10. Van Doorn, J.; Lemon, K.N.; Mittal, V.; Nass, S.; Pick, D.; Pirner, P.; Verhoef, P.C. Customer engagement behavior: Theoretical foundations and research directions. *J. Serv. Res.* **2010**, *13*, 253–266. [[CrossRef](#)]
11. Roy, S.K.; Shekhar, V.; Lassar, W.M.; Chen, T. Customer engagement behaviors: The role of service convenience, fairness and quality. *J. Retail. Consum. Serv.* **2018**, *44*, 293–304. [[CrossRef](#)]
12. Chen, X.; Dahlgaard-Park, S.M.; Wen, D. Emotional and rational customer engagement: Exploring the development route and the motivation. *Total Qual. Manag. Bus. Excell.* **2019**, *30*, S141–S157. [[CrossRef](#)]
13. Brodie, R.J.; Hollebeek, L.D.; Jurić, B.; Ilić, A. Customer engagement: Conceptual domain, fundamental propositions, and implications for research. *J. Serv. Res.* **2011**, *14*, 252–271. [[CrossRef](#)]
14. Harrigan, P.; Evers, U.; Miles, M.P.; Daly, T. Customer engagement and the relationship between involvement, engagement, self-brand connection and brand usage intent. *J. Bus. Res.* **2018**, *88*, 388–396. [[CrossRef](#)]
15. Leckie, C.; Nyadzayo, M.W.; Johnson, L.W. Antecedents of consumer brand engagement and brand loyalty. *J. Mark. Manag.* **2016**, *32*, 558–578. [[CrossRef](#)]
16. Hollebeek, L.D.; Glynn, M.S.; Brodie, R.J. Consumer brand engagement in social media: Conceptualization, scale development and validation. *J. Interact. Mark.* **2014**, *28*, 149–165. [[CrossRef](#)]
17. Sashi, C.M. Customer engagement, buyer-seller relationships, and social media. *Manag. Decis.* **2012**, *50*, 253–272. [[CrossRef](#)]
18. Baldus, B.J.; Voorhees, C.; Calantone, R. Online brand community engagement: Scale development and validation. *J. Bus. Res.* **2015**, *68*, 978–985. [[CrossRef](#)]
19. Thakur, R. Understanding customer engagement and loyalty: A case of mobile devices for shopping. *J. Retail. Consum. Serv.* **2016**, *32*, 151–163. [[CrossRef](#)]
20. Solem, B.A.A.; Pedersen, P.E. The effects of regulatory fit on customer brand engagement: An experimental study of service brand activities in social media. *J. Mark. Manag.* **2016**, *32*, 445–468. [[CrossRef](#)]
21. Lazarus, R.S.; Smith, C.A. Knowledge and appraisal in the cognition—Emotion relationship. *Cogn. Emot.* **1988**, *2*, 281–300. [[CrossRef](#)]
22. Deci, E.L.; Ryan, R.M. *Intrinsic Motivation and Self-Determination in Human Behavior*; Plenum: New York, NY, USA, 1985.
23. Chen, C.W. Guidance on the Conceptual Design of Sustainable Product–Service Systems. *Sustainability* **2018**, *10*, 2452. [[CrossRef](#)]
24. Dyllick, T.; Muff, K. Clarifying the meaning of sustainable business: Introducing a typology from business-as-usual to true business sustainability. *Organ. Environ.* **2016**, *29*, 156–174. [[CrossRef](#)]
25. Dyllick, T.; Rost, Z. Towards true product sustainability. *J. Clean. Prod.* **2017**, *162*, 346–360. [[CrossRef](#)]
26. Huang, M.H.; Cheng, Z.H.; Chen, I.C. The importance of CSR in forming customer-company identification and long-term loyalty. *J. Serv. Mark.* **2017**, *31*, 63–72. [[CrossRef](#)]
27. Martínez, P.; del Bosque, I.R. CSR and customer loyalty: The roles of trust, customer identification with the company and satisfaction. *Int. J. Hosp. Manag.* **2013**, *35*, 89–99. [[CrossRef](#)]
28. Prentice, C.; Han, X.Y.; Hua, L.L.; Hu, L. The influence of identity-driven customer engagement on purchase intention. *J. Retail. Consum. Serv.* **2019**, *47*, 339–347. [[CrossRef](#)]
29. Wu, X.; Zhou, H.; Wu, D. Commitment, satisfaction, and customer loyalty: A theoretical explanation of the ‘satisfaction trap’. *Serv. Ind. J.* **2012**, *32*, 1759–1774. [[CrossRef](#)]
30. Morgan, R.M.; Hunt, S.D. The commitment-trust theory of relationship marketing. *J. Mark.* **1994**, *58*, 20–38. [[CrossRef](#)]
31. Bansal, H.S.; Irving, P.G.; Taylor, S.F. A three-component model of customer commitment to service providers. *J. Acad. Mark. Sci.* **2004**, *32*, 234. [[CrossRef](#)]
32. Gustafsson, A.; Johnson, M.D.; Roos, I. The effects of customer satisfaction, relationship commitment dimensions, and triggers on customer retention. *J. Mark.* **2015**, *69*, 210–218. [[CrossRef](#)]
33. Hollebeek, L.D.; Srivastava, R.K.; Chen, T. SD logic-informed customer engagement: Integrative framework, revised fundamental propositions, and application to CRM. *J. Acad. Mark. Sci.* **2019**, *47*, 161–185. [[CrossRef](#)]

34. Bowden, J.L.H. The process of customer engagement: A conceptual framework. *J. Mark. Theory Pract.* **2009**, *17*, 63–74. [[CrossRef](#)]
35. Petersen, M.; Brockhaus, S. Dancing in the dark: Challenges for product developers to improve and communicate product sustainability. *J. Clean. Prod.* **2017**, *161*, 345–354. [[CrossRef](#)]
36. Magnier, L.; Schoormans, J.; Mugge, R. Judging a product by its cover: Packaging sustainability and perceptions of quality in food products. *Food Qual. Prefer.* **2016**, *53*, 132–142. [[CrossRef](#)]
37. Kianpour, K.; Jusoh, A.; Asghari, M. Environmentally friendly as a new dimension of product sustainability. *Int. J. Qual. Reliab. Manag.* **2014**, *31*, 547–565. [[CrossRef](#)]
38. Parasuraman, A.; Zeithaml, V.A.; Malhotra, A. ES-QUAL: A multiple-item scale for assessing electronic service sustainability. *J. Serv. Res.* **2005**, *7*, 213–233. [[CrossRef](#)]
39. Li, B.; Wen, D.; Shi, X. Research on product sustainability control in Chinese online shopping: Based on the uncertainty mitigating factors of product sustainability. *Total Qual. Manag. Bus. Excell.* **2015**, *26*, 602–618. [[CrossRef](#)]
40. Liu, C.; Arnett, K.P. Exploring the factors associated with Web site success in the context of electronic commerce. *Inf. Manag.* **2000**, *38*, 23–33. [[CrossRef](#)]
41. Hu, H.H.; Kandampully, J.; Juwaheer, T.D. Relationships and impacts of service sustainability, satisfaction, customer satisfaction, and image: An empirical study. *Serv. Ind. J.* **2009**, *29*, 111–125. [[CrossRef](#)]
42. Ganesan, S.; Brown, S.P.; Mariadoss, B.J.; Ho, H. Buffering and amplifying effects of relationship commitment in business-to-business relationships. *J. Mark. Res.* **2010**, *47*, 361–373. [[CrossRef](#)]
43. Brown, J.R.; Lusch, R.F.; Nicholson, C.Y. Power and relationship commitment: Their impact on marketing channel member performance. *J. Retail.* **1995**, *71*, 363–392. [[CrossRef](#)]
44. Verhoef, P.C.; Franses, P.H.; Hoekstra, J.C. The effect of relational constructs on customer referrals and number of services purchased from a multiservice provider: Does age of relationship matter? *J. Acad. Mark. Sci.* **2002**, *30*, 202–216. [[CrossRef](#)]
45. Fullerton, G. When does commitment lead to loyalty? *J. Serv. Res.* **2003**, *5*, 333–344. [[CrossRef](#)]
46. Royo-Vela, M.; Casamassima, P. The influence of belonging to virtual brand communities on consumers' affective commitment, satisfaction and word-of-mouth advertising: The ZARA case. *Online Inf. Rev.* **2011**, *35*, 517–542. [[CrossRef](#)]
47. Hollebeek, L. Exploring customer brand engagement: Definition and themes. *J. Strateg. Mark.* **2011**, *19*, 555–573. [[CrossRef](#)]
48. Van Tonder, E.; Petzer, D.J. The interrelationships between relationship marketing constructs and customer engagement dimensions. *Serv. Ind. J.* **2018**, *38*, 948–973. [[CrossRef](#)]
49. Youssef, Y.M.A.; Johnston, W.J.; Abdelhamid, T.A.; Dakrory, M.I.; Seddick, M.G.S. A customer engagement framework for a b2b context. *J. Bus. Ind. Mark.* **2018**, *33*, 145–152. [[CrossRef](#)]
50. Davis-Sramek, B.; Droge, C.; Mentzer, J.T.; Myers, M.B. Creating commitment and loyalty behavior among retailers: What are the roles of service sustainability and satisfaction? *J. Acad. Mark. Sci.* **2009**, *37*, 440–454. [[CrossRef](#)]
51. Hur, W.M.; Kim, H.K.; Kim, H. Investigation of the relationship between service values and loyalty behaviors under high commitment. *Serv. Bus.* **2013**, *7*, 103–119. [[CrossRef](#)]
52. Oliver, R.L.; Rust, R.T.; Varki, S. Customer delight: Foundations, findings, and managerial insight. *J. Retail.* **1997**, *73*, 311–336. [[CrossRef](#)]
53. Fehrer, J.A.; Woratschek, H.; Germelmann, C.C.; Brodie, R.J. Dynamics and drivers of customer engagement: Within the dyad and beyond. *J. Serv. Manag.* **2018**, *29*, 443–467. [[CrossRef](#)]
54. Armstrong, J.S.; Overton, T.S. Estimating nonresponse bias in mail surveys. *J. Mark. Res.* **1977**, *14*, 396–402. [[CrossRef](#)]
55. Podsakoff, P.M.; Mackenzie, S.B.; Lee, J.Y.; Podsakoff, N.P. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *J. Appl. Psychol.* **2003**, *88*, 879–903. [[CrossRef](#)] [[PubMed](#)]
56. Fornell, C.; Johnson, M.D.; Anderson, E.W.; Cha, J.; Bryant, B.E. The American customer satisfaction index: Nature, purpose, and findings. *J. Mark.* **1996**, *60*, 7–18. [[CrossRef](#)]
57. Hair Jr, J.F.; Hult, G.T.M.; Ringle, C.; Sarstedt, M. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*; Sage publications: Thousand Oaks, VA, USA, 2016.

58. Ringle, C.M.; Wende, S.; Becker, J.M. SmartPLS 3. Boenningstedt: SmartPLS GmbH. Available online: <http://www.smartpls.com> (accessed on 28 March 2020).
59. Anderson, J.C.; Gerbing, D.W. Structural equation modeling in practice: A review and recommended two-step approach. *Psychol. Bull.* **1988**, *103*, 411–423. [[CrossRef](#)]
60. Chin, W.W. Commentary: Issues and opinion on structural equation modeling. *Manag. Inf. Syst. Q.* **1998**, *22*, 7–16.
61. Fornell, C.; Larcker, D.F. Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* **1981**, *18*, 39–50. [[CrossRef](#)]
62. Hulland, J. Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strateg. Manag. J.* **1999**, *20*, 195–204. [[CrossRef](#)]
63. Cohen, J. *Statistical Power Analysis for the Behavioral Sciences*; Lawrence Erlbaum Associates: Hillsdale, MI, USA, 1988.
64. Kumar, V.; Aksoy, L.; Donkers, B.; Venkatesan, R.; Wiesel, T.; Tillmanns, S. Undervalued or overvalued customers: Capturing total customer engagement value. *J. Serv. Res.* **2010**, *13*, 297–310. [[CrossRef](#)]



© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).