sustainability

MDPI

Article

From Interactivity to Brand Preference: The Role of Social Comparison and Perceived Value in a Virtual Brand Community

Miao Li [1,*], Ying Hua [1,*] and Junxuan Zhu [2]

[1] School of Information Technology and Management, University of International Business and Economics, Beijing 100029, China
[2] Bridge Trust Co., Ltd., Beijing 100033, China; angelazjx@126.com
* Correspondence: limiaoannie@163.com (M.L.); huaying@uibe.edu.cn (Y.H.)

Abstract: The main purpose of the paper is to examine whether and how perceived interactivity in a virtual brand community affects brand preference to realize the sustainable development of the brand. In this study, we propose and empirically test a theoretical model by analyzing data collected from online brand community members in China. The study confirms that (1) perceived interactivity has a positive effect on social value, emotional value, and informational value; (2) social value, emotional value, and informational value positively influence brand preference; (3) upward social comparison positively moderates the impact of perceived interactivity on social value, while downward social comparison negatively moderates the impact of perceived interactivity on social value. This study has highlighted the role of perceived interactivity in a brand community in promoting brand preference. We believe that the findings offer reliable and important insights for research and practice of brand management.

Keywords: brand community; brand preference; perceived interactivity; perceived value; social comparison

check for updates

Citation: Li, M.; Hua, Y.; Zhu, J. From Interactivity to Brand Preference: The Role of Social Comparison and Perceived Value in a Virtual Brand Community. *Sustainability* **2021**, *13*, 625. https://doi.org/10.3390/su13020625

Received: 8 December 2020
Accepted: 7 January 2021
Published: 11 January 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Copyright: © 2021 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 (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Brand preference is a sustainable competitive advantage in fierce brand competition, since it has been popularized in marketing studies as an important means to form brand loyalty [1], promote consumer purchase intention, positive word-of-mouth (WOM), and other positive behaviors [2–4]. Each brand wants consumers to prefer its own products rather than those of competitors. However, the product similarities increase because of the quick development of the information network, and it is getting increasingly difficult for consumers to distinguish between the products based exclusively on functional attributes [5]. With the wide application of social media, which creates an interactive environment [6,7], the key role of interactions and communications in the consumer decision-making process is emphasized in the SICAS model which consists five steps: sense, interest and interactive, connect and communicate, action, and share [8]. Thus, firms have made every endeavor to encourage consumers to interact with brands and products to maintain customer–brand relationships, such as building a brand community [9,10], to form brand preference, which is the basis and early stage for establishing and maintaining brand loyalty [1]. Furthermore, brand loyalty is a crucial component of brand competitiveness that is helpful to brand sustainable development [11].

A virtual brand community (or online brand community) is initially defined as a specialized, non-geographical-bound online community based on a structured set of social relationships among a brand's admirers [12] or its consumers [13]. According to Simply Measured, nearly 97% of top brands have brand fan pages on Facebook. In addition, some brands also build their own brand communities, like Xiaomi and the Huawei Forum. Although a few companies have made extensive investments in their brand community, and even taken control of interactions within the community, unwanted consequences can also happen [14]. For example, nearly 68% of members leave a virtual brand community

after joining it for the first time [15], which makes it very hard to promote brand sustainable development through operating an online brand community.

Despite an increasing need to better understand brand preference in brand communities, empirical study in this field has lagged behind. Prior research on the antecedents of brand preference has mostly focused on personal characteristics [16–18], brand characteristics [19,20], and environmental factors [21,22]. Within social media marketing conditions, interactivity has shown its pivotal role over traditional marketing methods [23]. Consumers are increasingly encouraged to create brand-related or product-related information, which is called user-generated content [24], exposing a high degree of interactivity. Even though perceived interactivity has a positive effect on brand attitude or brand loyalty [25–27], little research has explored the relationship between interactivity and brand preference in a virtual brand community environment [26,28–30]. Meanwhile, Sundar has called for more research on the intrinsic mechanisms of perceived interactivity [31]. In response to the gap mentioned, we identify perceived interactivity as a key factor of promoting brand preference to improve brand competitiveness. Therefore, the study problem is how perceived interactivity in a virtual brand community influences consumers' brand preference.

Consumers probably not only consider the attributes and functions of products, but also pay attention to the experience or shopping value during their shopping journey [32]. Shopping value is the comprehensive evaluation of subjective and objective factors that make up the complete shopping experience [33]. In addition, individuals join a brand community by being aware of social identity [34], such as personal membership, emotional bonding, and perceived value [35]. In a virtual brand community, interaction is also an important part of the decision-making process, and customers may be concerned about perceived value when interacting with others. Prior research suggests that perceived interactivity has a positive effect on brand preference from perceived interactivity with both a company and its customers [30]. The literature on brand communication gradually begins to attach importance to consumer-to-consumer interactions in an online brand community, in addition to company-to-consumer interactions [36]. Thus, in this study, we try to deeply investigate perceived interactivity with customers and seek to explore the impact mechanism of perceived interactivity on brand preference from a perceived value perspective. Furthermore, we will also investigate the moderating effects that social comparison exerts on the relationship between perceived interactivity and its performance. Social identity theory reveals that consumers in a social group form identification via categorizing themselves and others into different social categories (e.g., better off or worse off than the comparer), accordingly generating different directions of social comparison [37]. Under different types of self-concepts, individuals may have different types of attitude and behavior [38]. Consequently, it is worthwhile to investigate the interactive effect of perceived interactivity and social comparison on perceived interactivity consequences.

In general, the research objective of this study is to investigate the influence mechanism of perceived interactivity with consumers on brand preference from a comprehensive perspective, through testing how perceived interactivity affects perceived value and influences subsequent brand preference, as well as the moderating effect of social comparison. The rest of this paper is organized as follows. In Section 2, we review previous literature and the theoretical background of this study. Section 3 provides a conceptual model and hypotheses. Sections 4–6 describe the methods and results, discussions, and conclusions of this study, respectively.

2. Literature Review and Theoretical Background

2.1. Brand Preference

Brand preference is consumers' predisposition towards a certain brand [39,40], which is a strong affective response [41]. We believe that brand preference refers to one favoring a certain brand over other competing brands [3]. In an interactive environment, studies have analyzed the factors of brand preference from a social media marketing effort perspective, such as interaction, trendiness, customization, etc. [21,22]. However, in a virtual brand

community environment, most of the studies are focused on brand attitude and brand loyalty from the perspectives of community interactivity, experience, and brand community identification [42,43]. Brand attitude refers to a customer with either a positive or negative attitude toward a brand [44]. As for brand loyalty, this reflects an individual's long-term commitment to a certain brand [45]. Specifically, brand preference is the basis and early stage for consumers to form brand loyalty [1], thus warranting its strategic importance.

2.2. Perceived Interactivity

A virtual brand community offers numerous opportunities to engage, collaborate with, and actively advance customer relationships [46]. Interactions occur between customers and the brand, as well as among various types of customers, where the members can perceive interactivity. Perceived interactivity is a perception of interaction, and comes from user behaviors including sharing and diffusing information and experiences, socializing with other members, and participating in activities held by the community [47]. Research indicates that social interactions between consumers in a brand community lead to positive brand attitude and behaviors [48].

It is noteworthy that studies on brand communication increasingly attach importance to consumer-to-consumer interactions in a brand community, in addition to company-to-consumer interactions [49]. Research indicates that social interactions between consumers in a brand community lead to positive brand attitude and behaviors [48,50,51]. Additionally, it is widely recognized that perceived interactivity is a multi-dimensional construct, and there are three types of interactivity mainly involved, such as person-to-person, person-to-document, and person-to-system interactivity [49]. For interactions between consumers and consumer background, the three dimensions of perceived interactivity are responsiveness, connectedness, and playfulness [52]. Users in an online brand community interact with other consumers for the purpose of providing or receiving information and support, instead of playing in the community [53]. Thus, we utilize responsiveness and connectedness as the components of perceived interactivity. Responsiveness reflects the speed and frequency of an individual's response to his or her message from other members of an online brand community [54]. Connectedness refers to the sense of being connected to each other when individuals share information, experiences, and feelings through a brand community [55].

2.3. Perceived Value

Perceived value is the psychological feeling based on what a customer gets while interacting in brand community. According to equity theory, perceived value comes from the customer's overall appraisal of the net worth related to the brand and its products [56]. Past researches have conceptualized that consumer choice, including love or hate, of a brand is the result of multiple dimensions of customer perceived value [23]. According to the brand community literature, this study considers the most prominent categories of perceived value, including social value, emotional value, and informational value [57]. Firstly, social value refers to effectively building and maintaining interpersonal relationships by joining a brand community. When individuals interact with other members through text messages to exchange their views or thoughts about a brand and its products, they can access the identity of other users and delicately share their identity-related information [58]. Meanwhile, social relationships are also formed by groups who discuss their views on the brand through long-term exchanges in the brand community [25]. Secondly, emotional value is formed by pleasing customers, including offering products and services online with visual images, fantasies, and impressions. In the brand community domain this construct has been extensively studied, whereby consumers derive fun, entertainment, and enjoyment from interacting with a brand and other parties [59]. Thirdly, informational value means that users benefit from the brand community to obtain useful or professional information [60]. Information from other consumers (e.g., user-generated content) is considered more objective and useful than the information offered by the company [61]. In an online

brand community, consumers can post reviews, and share brand-related or product-related information and experiences, through which informational value is created.

2.4. Social Comparison Theory

In recent studies, researchers gradually noticed the role of social comparison in social networking. By comparing physical state, occupational attainment, etc. in Facebook, Twitter, and other social networking sites (SNSs), negative or positive emotions arise afterwards [62–64]. Participants in a virtual brand community also have a tendency to compare themselves to other users when they observe social information [65]. For example, when users discuss brands or products in an online brand community, some personal information may be displayed, (e.g., user level, occupation, social status, etc.), which may lead to social comparison. According to social comparison theory, there are two directions in social comparison, upward and downward comparison [66]. In psychology-related research, social comparison often leads to two opposing emotions: be envious or be satisfied [67]. An upward comparison is one in which the comparison standard is better off than the comparer [68,69], and a downward comparison is with a standard who is worse off [66]. These two different emotions in turn will give feedback in different directions in terms of psychology and behavior. Festinger's study has shown that we always compare ourselves to others who are better off for guidance, and to others who are worse off to increase our self-esteem [70].

3. Research Model and Hypotheses

3.1. Perceived Interactivity and Perceived Value

Online community users are completely immersed in online activities [71]. By providing responses and feedback to user-generated content, the degree to which users involve themselves in interactions increases. Sharing information and socializing with other customers are basic principles of connectedness among customers [72]. First, higher connectedness enhances users' sense of connection with or belonging to the community [73]. Through online interactions, the members in a community become virtual friends [55], and such a relationship would be much more significant for deeper communication and gaining social approval [74]. Either opinion leaders or information seekers in an online brand community would like social identification [75,76]. Gradually, the member develops a sense of belonging to the virtual brand community [77]. Second, for brand lovers joined in a brand community, they are no longer content to passively accept the company's products or services, but actively participate in the design and manufacture of the product. In this process, the customer can feel fun and enjoyment by interacting and socializing [59], the emotional value of which can be perceived. Third, perceived interactivity increases the extent to which people engage in information processing of brands [14]. Most individuals involve themselves in an online brand community to interact with others and to seek or offer informational support [53,78]. In the online network environment, consumers rely on and exchange information and experiences of their mutual interest to decide whether or not to purchase [79]. Research has suggested that information from other members is perceived to be more objective and useful than that from the company [61]. This discussion informs the following hypotheses:

Hypothesis (H1a). *A higher level of perceived interactivity leads to greater perceived social value.*

Hypothesis (H1b). *A higher level of perceived interactivity leads to greater perceived emotional value.*

Hypothesis (H1c). *A higher level of perceived interactivity leads to greater perceived informational value.*

3.2. Perceived Value and Brand Preference

According to the brand community literature, this study considers the most prominent categories of perceived value, including social value, emotional value, and informational value [57]. When consumers realize that they can establish or maintain social relationships with other consumers by participating in online discussion of a certain brand or sharing brand information, they will largely have a higher interest in or emotional dependence on the brand. In addition, when an individual gets emotional and informational support from other members in a brand community, he or she may build trust in relationships with the community and its members, and subsequently generate community commitment; furthermore, both trust and commitment can affect purchase intention [80], which is a behavioral outcome of brand preference [2]. Meanwhile, prior studies have demonstrated that perceived value has a significant effect on brand preference in the background of service marketing and traditional electronic commerce [23,56]. Therefore, we have the following hypotheses:

Hypothesis (H2a). *Social value will positively impact brand preference.*

Hypothesis (H2b). *Emotional value will positively impact brand preference.*

Hypothesis (H2c). *Informational value will positively impact brand preference.*

3.3. The Moderating Role of Social Comparison

Social comparison arises when users visit SNSs, or various kinds of media [63,81]. On the one hand, some research demonstrates that individuals may view the upward comparison targets as models that they use to decide whether they can upgrade their current situation [82,83], and improve themselves, when contrasting upward [84,85]. When the user compares with another customer who is better off, he or she realizes his or her deficiency and then induces self-improvement. Research suggests that upward comparison provides information or knowledge that is helpful in the process of self-improvement [82]. Therefore, the process of obtaining value from interaction is strengthened. On the other hand, when the customer compares with another customer who is worse off, he or she feels good and thinks that he or she does not need improvement. It even weakens the customer's affirmation of the usefulness of the brand community. The directions of social comparison triggered by the customer's participation in these two forms of interaction may be different, and the type of perceived value may be various, or distinct in extent. Based on the aforementioned literature, we predict the following:

Hypothesis (H3). *Upward social comparison will strengthen the relationship (a) between perceived interactivity and social value; (b) between perceived interactivity and emotional value; (c) between perceived interactivity and informational value.*

Hypothesis (H4). *Downward social comparison will weaken the relationship (a) between perceived interactivity and social value; (b) between perceived interactivity and emotional value; (c) between perceived interactivity and informational value. The research model proposed in this paper is illustrated in Figure 1.*

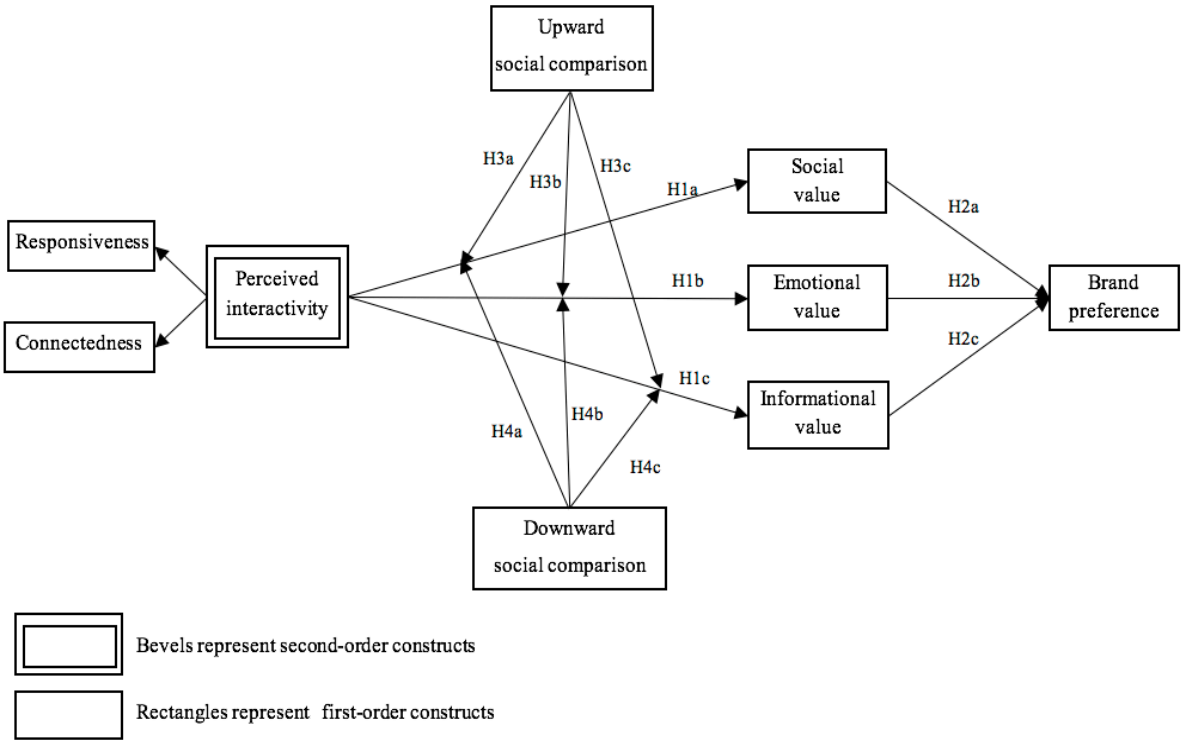

Figure 1. Theoretical and research model.

4. Methodology

4.1. Samples

This study aims to examine the role of perceived interactivity in perceived value creation, which eventually leads to brand preference in the virtual brand community context. When selecting samples, we mainly focused on whether the respondent had participated in the online brand community. The respondent can be regarded as the target of this research if only he or she is the member of brand community, such as when an individual has registered for a certain brand or product's forum or post, or has followed a certain brand or product's blog, Weibo, Wechat official account, Wechat group, and so on. In addition, the domains of the brand communities in this work involve mobile, automotive, computer, and other electronic products, cosmetics, and apparel, etc.

4.2. Measures

All measurement items were pretested and adjusted to fit the context of the virtual brand community, and the measures were assessed using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Perceived interactivity was represented as a second-order reflective construct formed by the two dimensions of responsiveness and connectedness. Responsiveness was derived from Song and Zinkhan (2008) [23] and connectedness was measured by a three-item scale [72]. As for perceived value, the items used to measure social value were adapted from Nambisan and Baron (2009) [86], and items used to measure emotional value and informational value by adapting Zhang et al., (2017) [60]. Five items were developed to measure brand preference [19]. Upward and downward social comparison were measured with 11 statements modified from the Iowa–Netherlands Comparison Orientation Measure (INCOM), developed by Gibbons and Buunk (1999) [87], which included: "I often compare how my loved ones (boy or girlfriend, family members, etc.) are doing with how others (who are better off/who are worse off) are doing" and "I always pay a lot of attention to how I do things compared with how others (who are better off/who are worse off) do things", etc. (see Appendix A).

4.3. Procedures

Prior to the survey, the measurement instrument was validated by one marketing Professor and two Ph.D. students. The survey was then pilot tested through sojump.com, a professional company supplying questionnaire services. The questions were revised for better understanding and clarity afterwards. By setting up the screening questions, the participant is required to have a basic understanding of the brand community, and is a registered user (or member) of the brand community. The formal investigation for this study was conducted by Sojump as well. We posted the questionnaire on this platform, and asked for some individuals' help to send questionnaires to gather data. Following this procedure, a total of 315 usable responses were generated, excluding invalid and incomplete answers. The characteristics of the participants are summarized in Table 1.

Table 1. Descriptive statistics of respondent characteristics.

Features	Number	%
Gender		
Male	145	46.03%
Female	170	53.97%
Types of Brand Community		
Company-initiated	198	62.86%
Customer-initiated	117	37.14%
Visiting Frequency		
Once per week, or less	162	51.43%
2 or 3 times per week	86	27.30%
3 to 6 times per week	35	11.11%
7 times or more	31	10.16%
Account/Membership Levels in Virtual Brand Community		
Lower lever	180	57.14%
Middle level	114	36.19%
Higher level	21	6.67%
Age		
<18	1	0.32%
18~25	212	67.30%
26~30	49	15.56%
31~40	35	11.11%
41~50	15	4.76%
>50	3	0.95%

To avoid common method variance bias, we adopted some recommendations made by Podsakoff et al. (2003) [88] in the design of the questionnaire, for example, item wording was revised to avoid ambiguous or unfamiliar terms. Furthermore, Harman's single-factor test was used to test common method variance bias. In our work, exploratory factor analysis with all the indicators showed six factors with an eigenvalue greater than 1.0 and the first factor explaining merely 32% of variance.

5. Data Analysis and Results

5.1. Measurement Model

Our measurement was tested by partial least squares (PLS), and smartPLS [89] was used with the bootstrap re-sampling method (using 1000 samples) to determine the significance of the paths. PLS has become popular in current research because of its advantage of minimal demands on measurement scales, data size, and model complexity [90,91].

We first evaluated the measurement model. The reliability and convergence validity results are shown in Table 2, with each item loaded significantly on its respective construct, with none of the loadings below 0.5 [92]. The examination of convergent validity was examined using the Fornell–Larcker criterion [93]. The Cronbach's Alpha (α) for all concepts was above 0.7, the composite reliabilities (CRs) were greater than 0.8, and the average variance extracted (AVE) was over 0.5 (Table 2), which means favorable convergence va-

lidity. In addition, our multicollinearity test results indicated that the variance inflation factors (VIFs) for each construct were below 4.00 (Table 2), showing that multicollinearity was not a serious problem [94]. Therefore, our measures manifested good psychometric properties. Discriminant validity was confirmed by ensuring the correlations between the constructs were less than 0.85 [95], and for every construct the square root of its AVE exceeded all correlations between this construct and other factors (Table 3). In addition, the heterotrait–monotrait ratio (HTMT) was also used, which recommends that the values of the HTMT must be less than 0.85 [96,97]. As Table 3 shows, discriminant validity holds because these criteria are met.

Moreover, the coefficients of determination (R^2) values are shown in Figure 2. The R^2 values indicate the effects of all the exogenous latent variables on an endogenous construct [98]. The effects of perceived interactivity on social value, emotional value, and informational value were 0.487, 0.565, and 0.517, respectively, which means perceived interactivity explains 48.7%, 56.5%, and 51.7% of the variance of social value, emotional value, and informational value, respectively. Meanwhile, social value, emotional value, and informational value explain 29.0% of the variance of brand preference.

Table 2. Item descriptive statistics.

Constructs	Items	Mean	S.D.	VIF	Loading	α	CR	AVE
Responsiveness	RES1	3.606	0.911	1.489	0.800	0.761	0.863	0.678
	RES2	3.743	0.809	1.819	0.873			
	RES3	3.663	0.840	1.509	0.794			
Connectedness	CON1	3.737	0.875	1.590	0.830	0.777	0.871	0.692
	CON2	3.860	0.797	1.620	0.830			
	CON3	3.803	0.832	1.600	0.835			
Social Value	SV1	3.625	0.908	1.688	0.832	0.808	0.886	0.722
	SV2	3.546	0.855	1.733	0.845			
	SV3	3.622	0.866	1.885	0.873			
Emotional Value	EV1	3.895	0.738	1.442	0.827	0.723	0.844	0.643
	EV2	3.686	0.789	1.394	0.768			
	EV3	3.660	0.802	1.428	0.809			
Informational Value	IV1	3.892	0.789	1.790	0.867	0.809	0.887	0.724
	IV2	3.778	0.790	1.865	0.858			
	IV3	3.717	0.797	1.671	0.826			
Upward Social Comparison	USC1	3.152	1.012	2.073	0.749	0.892	0.913	0.568
	USC2	3.248	0.980	2.654	0.776			
	USC3	3.517	0.934	1.945	0.774			
	USC4	3.422	0.961	2.116	0.761			
	USC6	3.216	1.026	2.483	0.731			
	USC7	3.540	0.916	1.843	0.751			
	USC8	3.635	0.896	2.117	0.774			
	USC9	3.638	0.830	1.912	0.712			
Downward Social Comparison	DSC1	2.848	1.105	2.687	0.826	0.949	0.955	0.662
	DSC2	2.962	1.068	2.705	0.835			
	DSC3	2.952	1.093	3.256	0.852			
	DSC4	2.892	1.070	3.028	0.828			
	DSC5	2.762	1.137	3.091	0.832			
	DSC6	2.857	1.085	3.336	0.839			
	DSC7	2.917	1.087	2.559	0.799			
	DSC8	3.083	1.045	2.774	0.813			
	DSC9	3.083	0.992	2.300	0.720			
	DSC10	3.143	0.999	2.587	0.766			
	DSC11	2.832	1.084	2.914	0.829			
Brand Preference	BP1	3.514	0.892	2.401	0.853	0.855	0.902	0.697
	BP2	3.460	0.963	2.144	0.827			
	BP3	3.651	0.883	1.837	0.820			
	BP4	3.613	0.878	2.006	0.839			

α: Cronbach's Alpha; CR: composite reliability; AVE: average variance extracted; VIF: collinearity statistics. Note: some items were deleted because of the lower factor loading.

Table 3. Correlations between constructs and square-root of average variance extracted (AVE), heterotrait–monotrait ratio (HTMT).

Constructs	RES	CON	SV	EV	IV	USC	DSC	BP
RES	0.823							
CON	0.624	0.832						
SV	0.523	0.562	0.850					
EV	0.604	0.688	0.609	0.802				
IV	0.601	0.661	0.565	0.716	0.851			
USC	0.374	0.423	0.557	0.479	0.446	0.754		
DSC	0.092	0.072	0.269	0.077	0.117	0.537	0.813	
BP	0.360	0.410	0.463	0.478	0.458	0.526	0.255	0.835
Heterotrait–monotrait ratio (HTMT)								
RES								
CON	0.812							
SV	0.543	0.552						
EV	0.643	0.653	0.483					
IV	0.628	0.638	0.473	0.536				
USC	0.396	0.403	0.559	0.478	0.447			
DSC	0.082	0.071	0.274	0.073	0.118	0.537		
BP	0.443	0.501	0.557	0.605	0.545	0.599	0.279	

(*) The elements on the diagonal show the square root of the AVE. RES: responsiveness; CON: connectedness; SV: social value; EV: emotional value; IV: informational value; USC: upward social comparison; DSC: downward social comparison; BP: brand preference.

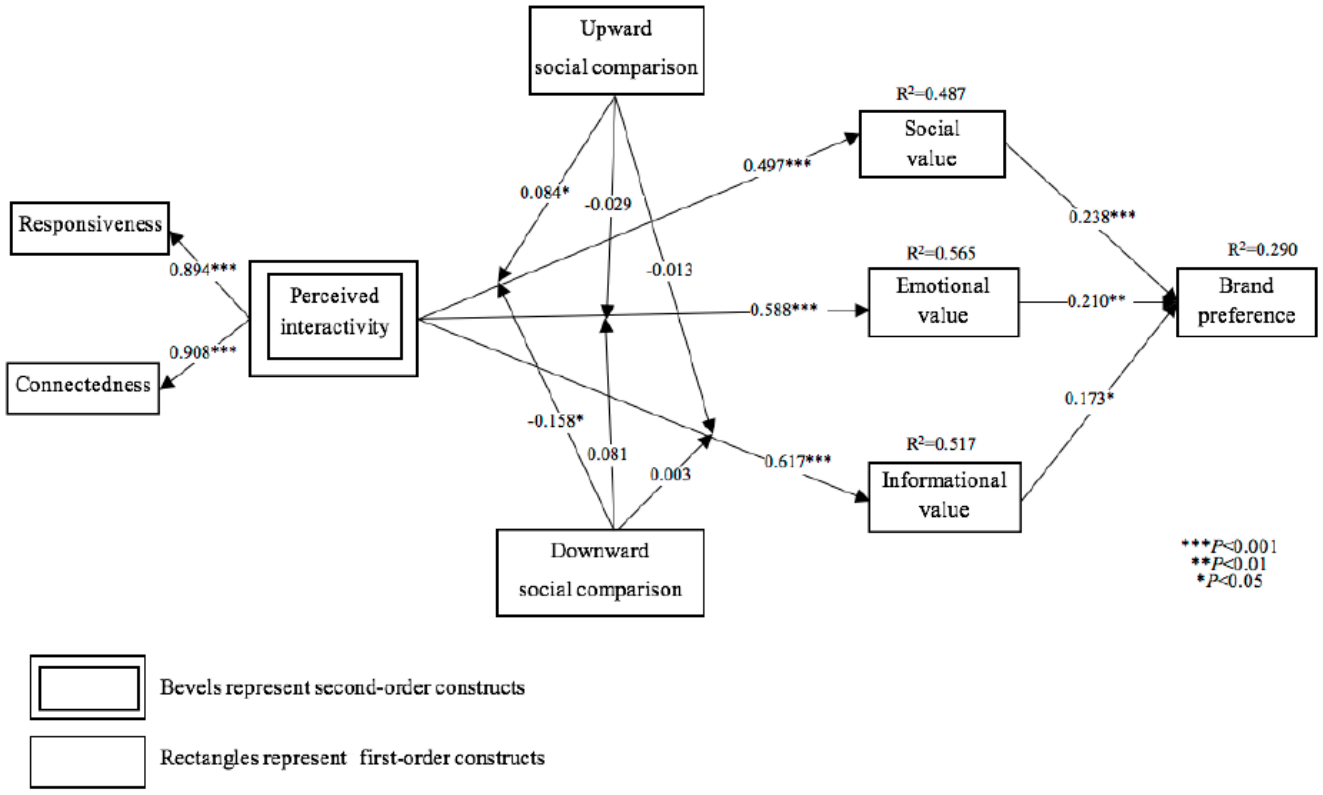

Figure 2. Hypothesis testing results of proposed model.

Additionally, the model's predictive relevance is represented as Stone–Geisser's Q^2 value [99]. A Q^2 value above 0 shows that the model is relevant to predicting that factor. The Q^2 values of social value, emotional value, informational value, and brand preference were 0.340, 0.347, 0.359, and 0.197 respectively, which indicates the model has predictive relevance [98]. The goodness of fit for the structural model was measured by the standard-

ized root mean square residual (SRMR). In our study, the SRMR was 0.07, which suggests that the model has a good fit [98].

5.2. Hypotheses Testing

In the second stage, we evaluated the structural model [92] by examining path coefficient and R^2 measures. Figure 2 shows a summary of the hypotheses tested in this research. Perceived interactivity significantly affects social value ($b = 0.497$, $p < 0.001$), emotional value ($b = 0.588$, $p < 0.001$), and informational value ($b = 0.617$, $p < 0.001$). Therefore, H1a, H1b, and H1c are supported. At the same time, the results show that social value ($b = 0.238$, $p < 0.001$), emotional value ($b = 0.210$, $p < 0.01$), and informational value ($b = 0.173$, $p < 0.05$) have significant effects on brand preference. Hence, H2a, H2b, and H2c are supported. The results also reveal informational value to be the weakest aspect of perceived value on the brand preference in the virtual brand community context. Next, upward social comparison exerts a positive moderating effect on the relationship between perceived interactivity and social value ($b = 0.084$, $p < 0.05$), while it has no moderating effects on the relationship between perceived interactivity and emotional value ($p > 0.05$), and the relationship between perceived interactivity and informational value ($p > 0.05$). Therefore, H3a is supported but H3b and H3c are not supported by the calculations. Finally, downward social comparison negatively moderates the relationship between perceived interactivity and social value ($b = -0.158$, $p < 0.01$), which supports H4a, whilst it has no moderating effects on the relationship between perceived interactivity and emotional value ($p > 0.05$), and the relationship between perceived interactivity and informational value ($p > 0.05$). Thus, H4b and H4c are not supported.

5.3. Post hoc Assessment of Mediating Effects

To verify whether perceived interactivity impacts brand preference through perceived value, we examined the mediating effects of perceived value using the bootstrapping procedures of SmartPLS. It was necessary to evaluate the indirect path as we did not hypothesize the impact of perceived interactivity on brand preference [100]. The results of the mediating effects assessment test are shown in Table 4. They show that social value ($b = 0.118$, $p < 0.001$), emotional value ($b = 0.123$, $p < 0.01$), and informational value ($b = 0.107$, $p < 0.05$) mediate the impacts of perceived interactivity on brand preference. Therefore, our results indicate that perceived interactivity influences brand preference through perceived value.

Table 4. Results from testing the mediating effects of perceived value.

Constructs			Indirect Effect (IV-M-DV)		Mediating Effect
IV	**M**	**DV**	**Path Coefficients**	***p*-Value**	
PI	SV	BP	0.118	0.000	Significant
PI	EV	BP	0.123	0.008	Significant
PI	IV	BP	0.107	0.022	Significant

Note: PI = perceived interactivity; SV = social value; EV = emotional value; IV = informational value; BP = brand preference.

6. Discussion and Conclusions

6.1. General Discussion

The main goal of this study was to examine the impact mechanism of perceived interactivity on brand preference in a virtual brand community. Based on the data collected from the members in brand communities, the study confirms that perceived interactivity is significantly related to perceived value, which leads to brand preference. It also means that brand preference, which is conducive to brand sustainable development, can be promoted through perceived interactivity in a virtual brand community. Details of the findings are discussed as follows.

The study indicates that perceived interactivity is significantly related to social value, emotional value, and informational value. This finding shows that consumers obtain different value when interacting with other individuals in an online brand community. Furthermore, the results show that all the three kinds of perceived value have significant effects on brand preference. The more social value, emotional value, and informational value people perceive, the more likely it is that they will develop brand preference. An individual who has gotten social identification and received social support (e.g., emotional support and informational support) through interactions with others, will probably generate commitment or trust in the virtual brand community and identify with the brand [101], and prefer to choose the brand and purchase its associated products. It is confirmed that perceived interactivity in a virtual brand community can be an important factor in establishing brand preference to achieve sustainable development of brands.

Specifically, the findings also indicate that the two directions of social comparison have different moderating impacts on the relationship between perceived interactivity and perceived social value. Upward social comparison plays a positive role in the relationship between perceived interactivity and social value, while downward social comparison has a negative effect in this relationship. This is probably because people prefer to select brands or products used by those who are better off than them, instead of those who are worse off. Our work also shows that neither upward nor downward social comparison have moderating effects on the relationship between perceived interactivity and emotional value and informational value. According to this issue, five people were selected for individual in-depth interviews. One possible reason was mentioned in the interview, for example, "In case I just search information about a certain brand in an online brand community, I possibly gather the information from those either better or worse off than me". Prior studies also indicate that most individuals join the virtual brand community to interact with other users and to obtain or offer information and support [53], and the information from other consumers (e.g., user generated content) is considered more objective and useful than that offered by the company [61]. Thus, people in an online brand community probably obtain more objective information in relation to the brand, no matter what kind of users generate the information, and will be more psychologically satisfied and their well-being will subsequently improve.

6.2. Theoretical Implications

Our work contributes to the literature by offering three significant insights into virtual brand communities. First, our research explains why online brand communities influence brand preference from a perceived interactivity perspective. Most individuals in an online brand community interact with other consumers to provide or receive information and support, such as posting reviews [53], and their attitudes and behaviors regarding the brand are probably affected [102]. Individuals may perceive a high degree of interactivity during various kinds of interactions in a virtual brand community. Although researchers have studied whether perceived interactivity can positively influence consumer satisfaction and loyalty [26], few studies have explored how brand preference is promoted by perceived interactivity in an online brand community, especially in relation to the interactivity between consumers.

Second, our study contributes to the consumer perceived value literature. This study demonstrates that psychological rewards are reflected in three ways: social, emotional, and informational [57], withdrawing the mediating effect of perceived value on the relationship between perceived interactivity and brand preference. In this study, the dimensions of perceived value are different from prior literature [103,104], and the three dimensions affect customer affective response in different degrees.

Third, this research extends the social comparison literature by investigating its impact on the relationship between perceived interactivity and perceived value. This paper can help to explain the mixed findings regarding the association of these in extant literature. Compared with consumers who are better off, it can enhance the user's social value

experience and encourage them to reach a better social status, thus promoting the formation of brand preference. In contrast, comparing with a worse off customer can undermine the possibility of social value.

6.3. Practical Implications

We pay attention to virtual brand communities since these communities have a great relevance for marketers and customers, hoping to help marketers with theoretical support to manage brand communities and realize sustainable development of the community and the brand. First, the empirical results will be useful for marketers of brand community to understand the factors for success and allocate the appropriate resources to promote brand preference by managing virtual brand communities. This result also leads to the consideration of customer relationship management. If companies can identify, understand, and influence customer interactions to promote and encourage specific customer interactions, then excellent customer relationships can be implemented, which are significant for brand sustainable development.

Second, the mediation role of perceived value persuades managers to realize the importance and purpose of interaction management. This paper offers ways to strengthen social, emotional, and informational connection for their consumers. In virtual brand communities, brands should be focusing on maximizing perceived value through effective interactions. Considering the importance of perceived value (social value, emotional value, and informational value), it is advised that marketers should develop stable and lasting customer–brand relationships through interactions and other activities through online brand communities, to promote consumers' brand preference and ultimately realize the sustainable development of brands.

Third, another contribution of this research is the role of social comparison in managing virtual brand communities. The social comparison nature of virtual brand communities is an important boundary condition to the validity of the proposed model. The moderated effects of upward and downward social comparison on the relationships between perceived interactivity and social value are both significant, with positive effects and negative effects, respectively. Thus, it is recommended that it is necessary to introduce celebrities or opinion leaders in related areas to participate in the interactions, to promote the consumers' willingness to improve status or quality of life by using the brand.

6.4. Limitations and Future Research

Several limitations exist in the current study. First, this study examined the impact of perceived interactivity on brand preference in virtual brand communities without considering different types. Some researchers divide brand communities into two categories (consumer-initiated communities and company-initiated communities) and point out the difference between the two kinds of communities [53]. Future studies could concentrate on the differences and similarities between virtual brand communities in various features, which might provide a more complete understanding of the impact of that marketing tool on brand preference shaping. Second, our study does not focus on specific types of products, even though this approach can raise the generalizability of this study. Future studies are needed to test and extend our model with brand communities of different product categories, such as fashion products, electronics, and so on. Third, the INCOM scale we applied on social comparison is classic but general, and this may partially affect the moderating effect. Future research could develop a community-specified scale of social comparison according to previous studies, following the methods of former researchers, such as Churchill (1979) [105] and Nunnaly and Bernstein (1994) [106].

Additionally, future studies could extend our work in several ways. First, other antecedents of brand preference in virtual brand communities are needed to assess through other theoretical lenses. Second, other moderators and how they moderate the relationships between perceived interactivity and its outcomes could also be tested. Third, it is necessary to conduct longitudinal studies to study if brand preference will change during interactions

with members in a brand community. Lastly, future studies could also test other outcomes of brand preference, such as brand loyalty [43], brand community commitment [42], information contributing [107], and other positive behaviors that will contribute to brand sustainable development.

Author Contributions: M.L., Y.H., and J.Z. designed the research and wrote the paper; M.L. and Y.H. conducted the literature review and built the conceptual model; J.Z. analyzed the data; M.L., Y.H., and J.Z. wrote the discussion and conclusion. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

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

Appendix A

Table 1. Measurement scales.

Measurement Scales
Perceived interactivity
Responsiveness [23]
RES1. The brand community processed my input very quickly.
RES2. Getting information from the brand community is very fast.
RES3. When I clicked on the links in the brand community, I felt I was getting instantaneous information.
Connectedness [72]
CON1. Customers share experiences about the product or service with other customers of this brand.
CON2. Customers of this brand community benefit from visiting the website.
CON3. Customers share a common bond with other members of the brand community.
Perceived value
Social value [86]
SV1. Expand my personal/social network.
SV2. Enhance the strength of my affiliation with the customer community.
SV3. Enhance my sense of belonging with this community.
Emotional Value [60]
EV1. I receive adequate emotional concern from people in the community.
EV2. I feel relieved by getting sympathy from online people using the brand community.
EV3. I have been encouraged by other customers of the brand community.
Informational Value [60]
IV1. I accumulate significant knowledge through users' shared information.
IV2. I obtain lots of useful information.
IV3. By participating in the brand community, I solved the practical problems I encountered about the product or service of this brand.
Upward Social Comparison [87]
USC1. I often compare how my loved ones (boy or girlfriend, family members, etc.) are doing with how others (who are better off) are doing.
USC2. I always pay a lot of attention to how I do things compared with how others (who are better off) do things.
USC3. If I want to find out how well I have done something, I compare what I have done with how others (who are better off) have done.
USC4. I often compare how I am doing socially (e.g., social skills, popularity) with others (who are better off).
USC5. I am not the type of person who compares often with others (who are better off).
USC6. I often compare myself with others (who are better off) with respect to what I have accomplished in life.
USC7. I like to talk with others (who are better off) about mutual opinions and experiences.
USC8. I often try to find out what others (who are better off) think who face similar problems as I face.
USC9. I like to know what others (who are better off) in a similar situation would do.
USC10. If I want to learn more about something, I try to find out what others (who are better off) think about it.
USC11. I often consider my situation in life relative to that of others (who are better off).

Table 1. *Cont.*

Measurement Scales
Downward Social Comparison [87]
DSC1. I often compare how my loved ones (boy or girlfriend, family members, etc.) are doing with how others (who are worse off) are doing.
DSC2. I always pay a lot of attention to how I do things compared with how others (who are worse off) do things.
DSC3. If I want to find out how well I have done something, I compare what I have done with how others (who are worse off) have done.
DSC4. I often compare how I am doing socially (e.g., social skills, popularity) with others (who are worse off).
DSC5. I am not the type of person who compares often with others (who are worse off).
DSC6. I often compare myself with others (who are worse off) with respect to what I have accomplished in life.
DSC7. I like to talk with others (who are worse off) about mutual opinions and experiences.
DSC8. I often try to find out what others (who are worse off) think who face similar problems as I face.
DSC9. I like to know what others (who are worse off) in a similar situation would do.
DSC10. If I want to learn more about something, I try to find out what others (who are worse off) think about it.
DSC11. I often consider my situation in life relative to that of others (who are worse off).
Brand Preference [19]
BP1. It makes sense to always choose this brand, even if other brands have slightly better services.
BP2. Even if another brand has a better range of services or products as this one, I strongly prefer to use this one.
BP3. This brand would easily be my first choice for my needs.
BP4. I have a very strong preference for this brand.

References

1. Richard, C.; Donald, M.; David, P. Brand service quality, satisfaction, trust and preference as predictors of consumer brand loyalty in the retailing industry. *Mediterr. J. Soc. Sci.* **2013**, *4*, 181–190.
2. Boubker, O.; Douayri, K. Dataset on the relationship between consumer satisfaction, brand attitude, brand preference and purchase intentions of dairy product: The case of the laayoune-sakia el hamra region in morocco. *Data Brief* **2020**, *32*, 106172. [CrossRef] [PubMed]
3. Kim, W.; Ok, C.; Canter, D.D. Value-driven customer share of visits. *Serv. Ind. J.* **2012**, *32*, 37–58. [CrossRef]
4. Batra, R.; Ahuvia, A.; Bagozzi, R.P. Brand love. *J. Mark.* **2012**, *76*, 1–16. [CrossRef]
5. Petruzzellis, L. Mobile phone choice: Technology versus marketing. The brand effect in the Italian market. *Eur. J. Mark.* **2010**, *44*, 610–634. [CrossRef]
6. Brodie, R.J.; Ilic, A.; Juric, B.; Hollebeek, L. Consumer engagement in a virtual brand community: An exploratory analysis. *J. Bus. Res.* **2013**, *66*, 105–114. [CrossRef]
7. Hollebeek, L.; Chen, T. Exploring positively-versus negatively-valenced brand engagement: A conceptual model. *J. Prod. Brand Manag.* **2014**, *23*, 62–74. [CrossRef]
8. DCCI, SICAS Model. 2011. Available online: http://www.dcci.com.cn/report/view/cid/2/id/425.html (accessed on 29 August 2020).
9. Kumar, V.; Bhaskaran, V.; Mirchandani, R.; Shah, M. Practice prize winner—Creating a measurable social media marketing strategy: Increasing the value and ROI of intangibles and tangibles for hokey pokey. *Mark. Sci.* **2013**, *32*, 194–212. [CrossRef]
10. Naidoo, V.; Hollebeek, L.D. Higher education brand alliances: Investigating consumers' dual-degree purchase intentions. *J. Bus. Res.* **2016**, *69*, 3113–3121. [CrossRef]
11. Baldinger, A.; Rubinson, J. Brand Loyalty: The Link between AtitudeandBehavior. *J. Advert. Res.* **1996**, *36*, 22–34.
12. Muniz, A.M.; O'Guinn, T.C. Brand community. *J. Consum. Res.* **2001**, *27*, 412–432. [CrossRef]
13. De Valck, K.; van Bruggen, G.H.; Wierenga, B. Virtual communities: A marketing perspective. *Decis. Support Syst.* **2009**, *47*, 185–203. [CrossRef]
14. Lee, J.; Park, H.; Wise, K. Brand interactivity and its effects on the outcomes of advergame play. *New Media Soc.* **2014**, *16*, 1268–1286. [CrossRef]
15. Ren, Y.; Harper, F.M.; Drenner, S.; Terveen, L.; Kiesler, S.; Riedl, J.; Kraut, R.E. Building member attachment in online communities: Applying theories of group identity and interpersonal bonds. *Mis Q.* **2012**, *36*, 841–864. [CrossRef]
16. McAlister, L. A dynamic attribute satiation model of va- riety-seeking behavior. *J. Consum. Res.* **1982**, *9*, 141–151. [CrossRef]
17. Erdem, T. A Dynamic Analysis of Market Structure Based on Panel Data. *Mark. Sci.* **1996**, *15*, 203–238. [CrossRef]
18. Yang, S.; Allenby, G.M. A model for observation, structural, and household heterogeneity in panel data. *Mark. Lett.* **2000**, *11*, 137–149. [CrossRef]
19. 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.
20. Ebrahim, R.; Ghoneim, A.; Irani, Z.; Fan, Y. A brand preference and repurchase intention model: The role of consumer experience. *J. Mark. Manag.* **2016**, *32*, 1230–1259. [CrossRef]

21. Godey, B.; Manthiou, A.; Pederzoli, D.; Rokka, J.; Aiello, G.; Donvito, R.; Singh, R. Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior. *J. Bus. Res.* **2016**, *69*, 5833–5841. [CrossRef]
22. Wang, Y.; Chowdhury Ahmed, S.; Deng, S.; Wang, H. Success of Social Media Marketing Efforts in Retaining Sustainable Online Consumers: An Empirical Analysis on the Online Fashion Retail Market. *Sustainability* **2019**, *11*, 3596. [CrossRef]
23. Song, J.H.; Zinkhan, G.M. Determinants of perceived web site interactivity. *J. Mark.* **2008**, *72*, 99–113. [CrossRef]
24. Hollebeek, L.D.; Macky, K. Digital content marketing's role in fostering consumer engagement, trust, and value: Framework, fundamental propositions, and implications. *J. Interact. Mark.* **2019**, *45*, 27–41. [CrossRef]
25. Kuo, Y.F.; Feng, L.H. Relationships among community interaction characteristics, perceived benefits, community commitment, and oppositional brand loyalty in online brand communities. *Int. J. Inf. Manag.* **2013**, *33*, 948–962. [CrossRef]
26. Van Noort, G.; Voorveld, H.A.M.; van Reijmersdal, E.A. Interactivity in Brand Web Sites: Cognitive, Affective, and Behavioral Responses Explained by Consumers' Online Flow Experience. *J. Interact. Mark.* **2012**, *26*, 223–234. [CrossRef]
27. Laroche, M.; Habibi, M.R.; Richard, M.-O. To be or not to be in social media: How brand loyalty is affected by social media? *Int. J. Inf. Manag.* **2013**, *33*, 76–82. [CrossRef]
28. Kim, J.; Lee, K.H. Influence of integration on interactivity in social media luxury brand communities. *J. Bus. Res.* **2019**, *99*, 422–429. [CrossRef]
29. Keng, C.J.; Ting, H.Y. The acceptance of blogs: Using a customer experiential value perspective. *Internet Res.* **2009**, *19*, 479–495. [CrossRef]
30. Zhu, J.; Zhu, Y.; Hua, Y. How to Manage the Virtual Brand Community to Improve Brand Preference: Views from the Perceived Interactivity. In Proceedings of the 52nd Hawaii International Conference on System Sciences, Maui, HI, USA, 8–11 January 2019.
31. Sundar, S.S. Theorizing Interactivity's Effects. *Inf. Soc. Int. J.* **2004**, *20*, 385–389. [CrossRef]
32. Overby, J.W.; Lee, E.J. The effects of utilitarian and hedonic online shopping value on consumer preference and intentions. *J. Bus. Res.* **2006**, *59*, 1160–1166. [CrossRef]
33. Zeithaml, V.A. Consumer perceptions of price, quality, and value: A means–end model and synthesis of evidence. *J. Mark.* **1988**, *52*, 2–22. [CrossRef]
34. Swimberghe, K.; Darrat, M.A.; Beal, B.D.; Astakhova, M. Examining a psychological sense of brand community in elderly consumers. *J. Bus. Res.* **2018**, *82*, 171–178. [CrossRef]
35. Tajfel, H. *Differentiation between Social Groups: Studies in the Social Psychology of Intergroup Relations*; Academic Press: Oxford, UK, 1978.
36. McAlexander, J.H.; Schouten, J.W.; Koenig, H.F. Building Brand Community. *J. Mark.* **2002**, *66*, 38–54. [CrossRef]
37. Zhang, Y.; Zuo, B. Social Identity Theory and It's Development. *Adv. Psychol. Sci.* **2006**, *14*, 475–480.
38. Markus, H.R.; Kitayama, S. Culture and the self: Implications for cognition, emotion, and motivation. *Psychol. Rev.* **1991**, *98*, 224–253. [CrossRef]
39. Howard, J.A.; Sheth, J.N. *The Theory of Buyer Behaviour*; John Wiley & Sons: New York, NY, USA, 1969.
40. Bettman, J.R.; Capon, N.; Lutz, R.J. Multi-attribute measurement models and multi-attribute attitude theory: A test of construct validity. *J. Consum. Res.* **1975**, *1*, 1–15. [CrossRef]
41. Herrando, C.; Jimenez-Martinez, J.; Hoyos, M.M. Passion at first sight: How to engage users in social commerce contexts. *Electron. Commer. Res.* **2017**, *17*, 701–720. [CrossRef]
42. Wang, X.W.; Cao, Y.M.; Park, C. The relationships among community experience, community commitment, brand attitude, and purchase intention in social media. *Int. J. Inf. Manag.* **2019**, *49*, 475–488. [CrossRef]
43. Kaur, H.; Paruthi, M.; Islam, J.; Hollebeek, L.D. The role of brand community identification and reward on consumer brand engagement and brand loyalty in virtual brand communities. *Telemat. Inform.* **2020**, *46*, 101321. [CrossRef]
44. Spears, N.; Singh, S.N. Measuring attitude toward the brand and purchase intentions. *J. Curr. Issues Res. Advert.* **2004**, *26*, 53–66. [CrossRef]
45. So, J.T.; Andrew, G.P.; Yap, S. Corporate branding, emotional attachment and brand loyalty: The case of luxury fashion branding. *J. Fash. Mark. Manag.* **2013**, *17*, 403–423.
46. Dholakia, U.M.; Bagozzi, R.P.; Pearo, L.K. A social influence model of consumer participation in network- and small-group-based virtual communities. *Int. J. Res. Mark.* **2004**, *21*, 241–263. [CrossRef]
47. Chung, H.; Zhao, X. Effects of Perceived Interactivity on Web Site Preference and Memory: Role of Personal Motivation. *J. Comput. Mediat. Commun.* **2004**, *10*, JCMC1017. [CrossRef]
48. Dholakia, U.M.; Vianello, S. Effective brand community management: Lessons from customer enthusiasts. *J. Brand Manag.* **2011**, *8*, 7–21. [CrossRef]
49. McMillan, S.J.; Hwang, J.S. Measures of Perceived Interactivity: An Exploration of the Role of Direction of Communication, User Control, and Time in Shaping Perceptions of Interactivity. *J. Advert.* **2002**, *31*, 29–42. [CrossRef]
50. Schau, H.J.; Muñiz, A.M.; Arnould, E.J. How brand community practices create value. *J. Mark.* **2009**, *73*, 30–51. [CrossRef]
51. Zhou, Z.; Zhang, Q.; Su, C.; Zhou, N. How do brand communities generate brand relationships? *Intermediate mechanisms. J. Bus. Res.* **2012**, *65*, 890–895.
52. Zhao, L.; Lu, Y. Enhancing perceived interactivity through network externalities: An empirical study on micro-blogging service satisfaction and continuance intention. *Decis. Support Syst.* **2012**, *53*, 825–834. [CrossRef]

53. Prentice, C.; Loureiro, S. Consumer-based approach to customer engagement—The case of luxury fashion brands. *J. Retail. Consum. Serv.* **2018**, *43*, 325–332. [CrossRef]
54. Lee, T. The impact of perceptions of interactivity on customer trust and transaction intentions in mobile commerce. *J. Electron. Commer. Res.* **2005**, *6*, 165–180.
55. Ridings, C.M.; Gefen, D.; Arinze, B. Some antecedents and effects of trust in virtual communities. *J. Strateg. Inf. Syst.* **2002**, *11*, 271–295. [CrossRef]
56. Hellier Phillip, K. Customer repurchase intention. *Eur. J. Mark.* **2003**, *37*, 1762–1800. [CrossRef]
57. Dessart, L.; Aldas-Manzano, J.; Veloutsou, C. Unveiling heterogeneous engagement-based loyalty in brand communities. *Eur. J. Mark.* **2019**, *53*, 1854–1881. [CrossRef]
58. Hu, M.; Zhang, M.; Wang, Y. Why do audiences choose to keep watching on live video streaming platforms? An explanation of dual identification framework. *Comput. Hum. Behav.* **2017**, *75*, 594–606.
59. Carlson, J.; Wyllie, J.; Rahman, M.M.; Voola, R. Enhancing brand relationship performance through customer participation and value creation in social media brand communities. *J. Retail. Consum. Serv.* **2019**, *50*, 333–341. [CrossRef]
60. Zhang, C.B.; Li, Y.N.; Wu, B.; Li, D.J. How WeChat can retain users: Roles of network externalities, social interaction ties, and perceived values in building continuance intention. *Comput. Hum. Behav.* **2017**, *69*, 284–293. [CrossRef]
61. Kozinets, R.V. The field behind the screen: Using netnography for marketing research in online communities. *J. Mark. Res.* **2002**, *39*, 61–72. [CrossRef]
62. Saaksjarvi, M.; Samiee, S. Relationships among Brand Identity, Brand Image and Brand Preference: Differences between Cyber and Extension Retail Brands over Time. *J. Interact. Mark.* **2011**, *25*, 169–177. [CrossRef]
63. Haferkamp, N.; Kramer, N.C. Social Comparison 2.0: Examining the Effects of Online Profiles on Social-Networking Sites. *Cyberpsychol. Behav. Soc. Netw.* **2011**, *14*, 309–314. [CrossRef]
64. Wang, J.L.; Wang, H.Z.; Gaskin, J.; Hawk, S. The Mediating Roles of Upward Social Comparison and Self-esteem and the Moderating Role of Social Comparison Orientation in the Association between Social Networking Site Usage and Subjective Well-Being. *Front. Psychol.* **2017**, *8*, 771. [CrossRef]
65. Chen, Y.; Harper, F.M.; Konstan, J.; Li, S.X. Social Comparisons and Contributions to Online Communities: A Field Experiment on MovieLens. *Am. Econ. Rev.* **2010**, *100*, 1358–1398. [CrossRef]
66. Suls, J.; Wills, T.A. *Social Comparison. Contemporary Theory and Research*; Lawrence Erlbaum and Associates: Hillsdale, NJ, USA, 1991.
67. Gerber, J.P.; Wheeler, L.; Suls, J. A Social Comparison Theory Meta-Analysis 60+Years On. *Psychol. Bull.* **2018**, *144*, 177–197. [CrossRef] [PubMed]
68. Feinstein, B.A.; Hershenberg, R.; Bhatia, V.; Latack, J.A.; Meuwly, N.; Davila, J. Negative social comparison on Facebook and depressive symptoms: Rumination as a mechanism. *Psychol. Pop. Media Cult.* **2013**, *2*, 161–170. [CrossRef]
69. Vogel, E.A.; Rose, J.P.; Okdie, B.M.; Eckles, K.; Franz, B. Who compares and despairs? The effect of social comparison orientation on social media use and its outcomes. *Personal. Individ. Differ.* **2015**, *86*, 249–256.
70. Festinger, L. A Theory of Social Comparison Processes. *Hum. Relat.* **1954**, *7*, 117–140. [CrossRef]
71. Hoffman, D.L.; Novak, T.P. Flow Online: Lessons Learned and Future Prospects. *J. Interact. Mark.* **2009**, *23*, 23–34. [CrossRef]
72. Cyr, D.; Head, M.; Ivanov, A. Perceived interactivity leading to e-loyalty: Development of a model for cognitive-affective user responses. *Int. J. Hum. Comput. Stud.* **2009**, *67*, 850–869. [CrossRef]
73. Hanson, S.; Jiang, L. The low status advantage: The effect of status structure on participation in an online community. *Electron. Mark.* **2016**, *26*, 233–244. [CrossRef]
74. Marbach, J.; Lages, C.; Nunan, D.; Ekinci, Y. Consumer engagement in online brand communities: The moderating role of personal values. *Eur. J. Mark.* **2019**, *53*, 1671–1700. [CrossRef]
75. Demiray, M.; Burnaz, S. Exploring the impact of brand community identification on Facebook: Firm-directed and self-directed drivers. *J. Bus. Res.* **2019**, *19*, 115–124. [CrossRef]
76. Veloutsou, C.; Black, I. Creating and managing participative brand communities: The roles members perform. *J. Bus. Res.* **2020**, *117*, 873–885. [CrossRef]
77. Algesheimer, R.; Dholakia, U.M.; Herrmann, A. The social influence of brand community: Evidence from European car clubs. *J. Mark.* **2005**, *69*, 19–34. [CrossRef]
78. Armstrong, A.; Hagel, J. The real value of communities. *Harv. Bus. Rev.* **1996**, *74*, 134–140.
79. Kim, S.; Park, H. Effects of various characteristics of social commerce (s-com- merce) on consumers' trust and trust performance. *Int. J. Inf. Manag.* **2013**, *33*, 318–332. [CrossRef]
80. Chen, J.; Shen, X.L. Consumers' decisions in social commerce context: An empirical investigation. *Decis. Support Syst.* **2015**, *79*, 55–64. [CrossRef]
81. Park, S.Y.; Baek, Y.M. Two faces of social comparison on Facebook: The interplay between social comparison orientation, emotions, and psychological well-being. *Comput. Hum. Behav.* **2018**, *79*, 83–93. [CrossRef]
82. Collins, R.L. For better or worse: The impact of upward social comparison on self-evaluations. *Psychol. Bull.* **1996**, *119*, 51–69. [CrossRef]
83. Nosanchuk, T.A.; Erickson, B.H. How high is up? Calibrating social comparison in the real world. *J. Personal. Soc. Psychol.* **1985**, *48*, 624–634. [CrossRef]

84. Blanton, H.; Buunk, B.P.; Gibbons, F.X.; Kuyper, H. When better-than- others compare upward: Choice of comparison and comparative evaluation as independent predictors of academic performance. *J. Personal. Soc. Psychol.* **1999**, *76*, 420–430. [CrossRef]
85. Vrugt, A.; Koenis, S. Perceived self-efficacy, personal goals, social com- parison, and scientific productivity. *Appl. Psychol. Int. Rev.* **2002**, *51*, 593–607. [CrossRef]
86. Nambisan, S.; Baron, R.A. Virtual Customer Environments: Testing a Model of Voluntary Participation in Value Co-creation Activities. *J. Prod. Innov. Manag.* **2009**, *26*, 388–406. [CrossRef]
87. Gibbons, F.X.; Buunk, B.P. Individual differences in social comparison: Development of a scale of social comparison orientation. *J. Pers. Soc. Psychol.* **1999**, *76*, 129. [CrossRef] [PubMed]
88. Podsakoff, P.M.; MacKenzie, S.B.; 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]
89. Ringle, C.M.; Wende, S.; Becker, J.M. *SmartPLS 3*; SmartPLS GmbH: Boenningstedt, Germany, 2015.
90. Ringle, C.M.; Sarstedt, M.; Straub, D.W. A critical look at the use of PLS-SEM in MIS Quarterly. *Mis Q.* **2012**, *36*, 3–14. [CrossRef]
91. Guo, Y.; Barnes, S. Purchase behavior in virtual worlds: An empirical investigation in Second Life. *Inf. Manag.* **2011**, *48*, 303–312. [CrossRef]
92. 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]
93. Fornell, C.; Larcker, D.F. Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* **1981**, *24*, 337–346. [CrossRef]
94. Hair Jr, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. *Multivariate Data Analysis*, 7th ed.; Pearson: London, UK, 2009.
95. Brown, T.A. *Confirmatory Factor Analysis for Applied Research*; Guilford Publications: New York, NY, USA, 2014.
96. Henseler, J.; Ringle, C.M.; Sarstedt, M. A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci.* **2015**, *43*, 115–135. [CrossRef]
97. Hair, J.F.; Sarstedt, M.; Ringle, C.M.; Gudergan, S.P. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 2nd ed.; Sage: Thousand Oakes, CA, USA, 2017.
98. Hair, J.F.; Hult, G.T.M.; Ringle, C.; Sarstedt, M. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*; SAGE: Thousand Oaks, CA, USA, 2014.
99. Geisser, S. The predictive sample reuse method with applications. *J. Am. Stat. Assoc.* **1975**, *70*, 320–328. [CrossRef]
100. Zhao, X.; Lynch, J.G.; Chen, Q. Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *J. Consum. Res.* **2010**, *37*, 197–206. [CrossRef]
101. Einwiller, S.A.; Fedorikhin, A.; Johnson, A.R.; Kamins, M.A. Enough is enough! When identification no longer prevents negative corporate associations. *J. Acad. Mark. Sci.* **2006**, *34*, 185–194. [CrossRef]
102. Nambisan, P.; Watt, J.H. Managing customer experiences in online product communities. *J. Bus. Res.* **2011**, *64*, 889–895. [CrossRef]
103. Lu, B.; Fan, W.; Zhou, M. Social presence, trust, and social commerce purchase intention: An empirical research. *Comput. Hum. Behav.* **2016**, *56*, 225–237. [CrossRef]
104. Doha, A.; Elnahla, N.; Mcshane, L. Social commerce as social networking. *J. Retail. Consum. Serv.* **2019**, *47*, 307–321. [CrossRef]
105. Churchill, G.A., Jr. A paradigm for developing better measures of marketing constructs. *J. Mark. Res.* **1979**, *16*, 64–73. [CrossRef]
106. Nunnaly, J.C.; Bernstein, I.H. *Psyhometric Theory*; McGraw-Hill: New York, NY, USA, 1994.
107. Wang, X.; Lin, X.; Spencer, M.K. Exploring the effects of extrinsic motivation on consumer behaviors in social commerce: Revealing consumers' perceptions of social commerce benefits. *Int. J. Inf. Manag.* **2019**, *45*, 163–175. [CrossRef]