administrative sciences

MDPI

Article

Changes in the Digital World: An Explanatory Analysis of the Key Factors Linked to Virtual Interactivity

Miluska Villar-Guevara [1,*], Elizabeth Emperatriz García-Salirrosas [2], Ledy Gómez-Bayona [3], David Villar [4], Magaly Pari-Apaza [1] and Israel Fernández-Mallma [5]

[1] EP de Administración, Facultad de Ciencias Empresariales, Universidad Peruana Unión, Juliaca 21100, Peru; magaly.pari@upeu.edu.pe
[2] Faculty of Management Science, Universidad Autónoma del Perú, Lima 15842, Peru; egarciasa@autonoma.edu.pe
[3] Instituto Tecnológico Metropolitano, Medellín 050034, Colombia; ledygomez@itm.edu.co
[4] CONCYTEC, Piura 20001, Peru; 47476535@posgrado.unp.edu.pe
[5] EP de Educación, Facultad de Ciencias Humanas y Educación, Universidad Peruana Unión, Juliaca 21100, Peru; pastorisrael@upeu.edu.pe
* Correspondence: miluskavillar@upeu.edu.pe

Abstract

Virtual interactivity in marketing has evolved significantly in recent decades, becoming an essential tool for effectively connecting with consumers in digital environments. Through interactive digital platforms, brands can generate a two-way dialogue with their customers, allowing them to obtain instant feedback and adapt their strategies quickly and effectively. This not only improves but also contributes to strengthening brand love and fostering long-term loyalty. In this context, this research aimed to analyze the effect of virtual interactivity on customer loyalty and WOM through multiple sequential mediation paths, considering the elements of relationship marketing and examining the cognitive (trust–commitment), communicational (communication–conflict management), and experiential (brand love–WOM) mechanisms that operate in digital consumer–brand interactions. A cross-sectional and explanatory study was conducted, considering 417 frequent customers of brands who also follow brands on social media. Participants included women (60.7%) and men (39.3%), ranging in age from 19 to 52 years (M = 30.9 and SD = 6.0). Data were collected using a self-report form on virtual interactivity, relationship marketing, WOW, customer loyalty, and brand love, yielding an appropriate measurement model (α = between 0.791 and 0.908; CR = between 0.791 and 0.916; AVE = between 0.679 and 0.845) which was statistically analyzed using PLS-SEM. The hypotheses confirmed the proposed model, observing the effect of virtual interactivity on important brand factors. This research provides valid results linked to the digital world in banking contexts.

Keywords: digitalization; digital consciousness; virtual interactivity; relationship marketing; WOW; customer loyalty; brand love

Received: 26 March 2025
Revised: 1 July 2025
Accepted: 10 July 2025
Published: 14 July 2025

Citation: Villar-Guevara, M., García-Salirrosas, E. E., Gómez-Bayona, L., Villar, D., Pari-Apaza, M., & Fernández-Mallma, I. (2025). Changes in the Digital World: An Explanatory Analysis of the Key Factors Linked to Virtual Interactivity. *Administrative Sciences*, *15*(7), 276. https://doi.org/10.3390/admsci15070276

1. Introduction

Virtual interactivity in marketing has evolved significantly in recent decades, becoming an essential tool for effectively connecting with consumers in digital environments (Nguyen & Hoang, 2024; Yan et al., 2024). Through interactive digital platforms, brands can generate a two-way dialogue with their customers, allowing them to obtain instant feedback and adapt their strategies quickly and effectively (Arora & Banerji, 2024; Sawhney et al., 2024).

This not only improves but also contributes to strengthening brand image and fostering long-term loyalty. In contrast, relationship marketing (RM) provides an important and direct connection between the customer and the brand (Obaze et al., 2023). This allows for improvements in organizational development (Perišić et al., 2022), brand value (Olivares et al., 2018), marketing development (Mulyana et al., 2020) and customer loyalty (Suarniki & Lukiyanto, 2020).

The way the world interacts today is also transforming the way brands interact with their customers (Arghashi & Yuksel, 2022; X. Jia et al., 2022). In this sense, virtual interactivity creates a space where people can develop connections, exchange interests, and share information, facilitating business relationships between sellers, buyers, and intermediaries (Arghashi & Yuksel, 2022; Gaines, 2019). This is where word of mouth (WOM) plays a crucial role for companies that want to achieve greater success in their marketing goals compared to those that do not use this strategy. This is because WOM is a more effective form of advertising that facilitates a greater number of consumers to engage with a brand (Zasuwa, 2024). For this same reason, WOM could be considered an ally of digitalized brands (Aljumah et al., 2023; Rubalcava de León et al., 2019), as any social media user can talk or comment about their favorite brands, sharing positive, neutral, or negative opinions, which will influence a potential customer's choices (Damayanti, 2023; Rubalcava de León et al., 2019).

The relevance of this study lies in the fact that, thanks to the creation of new technologies and algorithms, almost any type of information can now be accessed almost immediately. With the expansion of technology in the business world, the way we manage businesses has evolved over the last ten years (X. Jia et al., 2022). A total of 97.6% of the world's population has access to a smartphone, representing a 1.8% increase compared to 2023, according to the "Digital 2024 Global Overview Report" (DataReportal, 2024). These devices have a significant impact on purchasing habits and interaction due to their widespread use among users. In this sense, as in other business environments, the banking sector faces the challenge of retaining its customers and attracting new ones (Junaid et al., 2019; Panduro-Ramirez et al., 2024), and in response to this, the specialists in question have considered that virtual interactivity is essential to grow and retain loyal customers, in addition to reducing desertion (Borishade et al., 2022).

On the one hand, the banking sector is implementing different strategies and methods that emphasize brand love as an essential component (Amegbe et al., 2021; Chow & Ho, 2025; Panduro-Ramirez et al., 2024), as this approach is the most widely used to understand the emotional bond, respect, and loyalty toward a brand. On the other hand, recent studies have evaluated the link between this sector from the perspective of relationship marketing theory (K. Hidayat & Idrus, 2023; Nguyen & Hoang, 2024; Zegullaj et al., 2023), WOM (Dangaiso et al., 2024; Zasuwa, 2024), and the integrative role of the customer loyalty theory in mobile banking (Arora & Banerji, 2024; Muflih et al., 2024; Nguyen & Hoang, 2024). In this context, establishing banking brands that connect emotionally has become a strategic necessity to create lasting and differentiating relationships in a highly competitive and digital market.

In this regard, after reviewing the aforementioned background, interest arose in delving deeper into virtual interactivity, relationship marketing, WOM, customer loyalty, and brand love as an integrative model that could add value to academics and professionals in the banking sector. Bibliometric indicators reveal the ten countries that most disseminate their scientific results, including Indonesia, India, Malaysia, Iran, the United Kingdom, China, the United States, Australia, Vietnam, and Spain; all of them are analyzed for virtual interactivity. These countries have applied their research to diverse areas of knowledge, sectors, and populations, including business, management and accounting, economics,

econometrics, finance, and the social sciences. Despite this, no empirical research has been found that examines how the suggested model behaves in banking environments, which reveals a clear lack of scientific production for this cultural context. This lack of scientific evidence prevents a proper understanding of the fundamental factors of virtual interactivity in different sociocultural contexts. Briefly, with the intention of addressing this theoretical and empirical gap, this study aims to analyze and validate the model in a Peruvian context, thereby providing valuable information that will enrich both international knowledge and the development of more effective strategies for digital environments in developing countries. Consequently, the objective of this research was to analyze the effect of virtual interactivity on customer loyalty and WOM through multiple sequential mediation paths, considering the elements of relationship marketing and examining the cognitive (trust–commitment), communicational (communication–conflict management), and experiential (brand love–WOM) mechanisms that operate in digital consumer–brand interactions.

2. Literature Review and Hypothesis Development

2.1. Virtual Interactivity

Virtual interactivity (VI) is the process by which users can actively influence a digital environment, modifying its content, structure, or behavior in real time, through technological interfaces that allow bidirectional, multisensory, and dynamic communication between people, devices, or virtual systems (K. Jia et al., 2022). The term "interactivity" has been addressed by different authors at the end of the 20th century (Domagk et al., 2010; Smuts, 2009). Steuer et al. (1995) defined virtual interactivity in their theory as the degree to which Internet users are involved in changing the content of sites in real time. Although this definition was intended for the interaction of the time, it undoubtedly establishes the foundations for the concept of virtual interactivity, now within the framework of current technology, artificial intelligence, and the metaverse (Pillai et al., 2025).

Interactivity in marketing has become an essential tool for effectively connecting with consumers in digital environments (Rubalcava de León et al., 2019). Others translate it into greater interaction with the audience, facilitating the creation of personalized and relevant experiences (C. Liu et al., 2020; Wang et al., 2013). Recent research addresses the importance of virtual interactivity in marketing (Azila-Gbettor et al., 2024), referring to the ability of consumers to actively participate in the digital experiences offered by brands. Its importance lies in greater connection and interaction with the target audience, which in turn can positively influence brand perception and consumer purchasing decisions (Sousa et al., 2024). Instagram, for example, has become an interactive commercial platform that connects with buyers, creating needs through advertising and marketing (Ooi et al., 2023). In turn, virtual interactivity is considered a key factor for the competitiveness of companies (Rizvanović et al., 2023).

2.2. Relationship Marketing

Relationship marketing is a business strategy focused on establishing, maintaining, and strengthening strong and lasting relationships with customers and other stakeholders, beyond the simple commercial transaction (Koesworodjati et al., 2024). Furthermore, it is based on establishing quality bonds, which can generate significant benefits for companies in terms of loyalty, satisfaction, and profitability (Hino, 2017; Panduro-Ramirez et al., 2024). Relationship marketing is expressed through dimensions such as trust, communication, commitment, and conflict resolution (Nguyen & Hoang, 2024; Suarniki & Lukiyanto, 2020). Therefore, companies must be willing to make significant efforts and invest resources to strengthen ties with loyal customers, or even with those with loyalty potential (Gómez-Bayona et al., 2020). One of the distinctive characteristics of relationship marketing is the

importance placed on two-way communication and continuous interaction between the company and its customers (Macas et al., 2022). It also involves the use of information technologies to efficiently manage customer interactions (Larregui-Candelaria et al., 2019; Shen & Wang, 2024), where personalization and segmentation are key factors in the strategy, enabling personalized customer experiences (Rahman et al., 2023).

2.3. Brand Love

Brand love (BL) is defined as the degree of passionate emotional attachment that a satisfied consumer feels for a particular brand (Carroll & Ahuvia, 2006; Gumparthi & Patra, 2020). On the other hand, the definition of brand love has acquired great relevance in the field of marketing and has also been the subject of study with research that has explored this phenomenon from various perspectives (Arghashi et al., 2021; Bey & Moosmayer, 2023; Junaid et al., 2019; Laura-Arias et al., 2024; Robertson et al., 2022). In this context, affective commitment stands out as a key indicator of brand love (Choi et al., 2024; Hafez, 2021; Trivedi, 2019). The emotional bond of attachment is associated with a positive emotional connection (Batra et al., 2012). Current research has highlighted that brand love is an essential factor in the modern marketing world, as it goes beyond the simple commercial transaction to become a deep, personal emotional connection that the customer experiences (Larregui-Candelaria et al., 2019; Modroño, 2019; Suyoto & Tannady, 2022). This emotional connection fosters customer loyalty, drives word of mouth recommendations, and contributes to building a community of engaged followers (Juyumaya & Torres, 2023). Therefore, it becomes a key differentiator that influences purchasing decisions and the perception of value (Quezado et al., 2022).

2.4. Customer Loyalty

Customer loyalty (CL) refers to the propensity for attitudes and actions toward a particular brand which is preferred over others, whether due to service quality, operational convenience, or simply the positive perception associated with the brand (Larsson & Broström, 2020). Others associate it with repeated purchases of the same brand or requests for the same service (Septiano et al., 2024). In turn, it implies a solid commitment to repurchase a product or service in a firm and constant manner (Saleem et al., 2018). Therefore, loyal customers show a strong willingness to remain loyal to a company and to remain regular customers over time (Mukerjee, 2018; Setiawan & Sayuti, 2017). Recent research suggests that loyal customers tend to buy more banking products, try new products, collaborate in terms of cost, recommend the institution to others (Sang, 2022), and are less likely to change banks, even in the face of changes in prices or incentives (D. R. Hidayat et al., 2024; Macas et al., 2022).

2.5. Word of Mouth

Since the dawn of civilization, word of mouth (WOM) communication has been recognized and considered one of the most direct and powerful channels for transmitting information between individuals about a product or company, since it represents a more ancient form of marketing (Sang, 2022), which influences consumers when making purchasing decisions (Rubalcava de León et al., 2019). Currently, WOM has become highly relevant to experts in the field, highlighted by being a lower-cost strategy in contrast to marketing initiatives, in addition to being perceived as more authentic and valid (Çelik & Topuz, 2021; Mittal et al., 2022). This refers to communication between consumers where they share their opinions and personal experiences when interacting with a brand or product (Khoo, 2022; Torres et al., 2022). Currently, WOM is recognized as a significant influence in the consumer market and has become a mechanism for customer loyalty towards products and services, having a particular influence during the information search process that consumers carry

out to make purchasing decisions (Jalees et al., 2023; Said et al., 2022; Setyawati et al., 2018). Recent studies highlight that increasing customer trust is reflected in WOM (Arndt, 1967; Manyanga et al., 2022; Rahman et al., 2023). Other factors such as the perception of value, the convenience experienced, and the level of satisfaction are essential elements that contribute significantly to WOM, thus making it a fundamental tool for companies (Jaakkola & Aarikka-Stenroos, 2019; Rahman et al., 2023).

2.6. Development of the Study Hypotheses

Taking into account the theory of pathways from a cognitive, communication, and experiential perspective, it describes how people assimilate information and make decisions in complex situations, especially in areas such as consumer behavior, influential communication, and education. Its relevance lies in the fact that this comprehensive approach facilitates understanding of how different types of stimuli and contexts impact thinking, attitudes, and behavior, providing a solid theoretical framework for developing evidence-based interventions, campaigns, and strategies in sectors such as marketing, education, public health, and psychology.

2.6.1. Cognitive Pathway: VI → Trust → Commitment → Customer Loyalty

This pathway is based on the Commitment–Trust Model (Morgan & Hunt, 1994) and Social Exchange Theory (Blau, 1964), suggesting that virtual interactivity generates cognitive processes that strengthen trust, which subsequently facilitate the development of psychological commitment to the brand, ultimately resulting in loyalty behaviors.

Customer loyalty encompasses a consistent commitment to a bank's products/services, potentially leading to higher satisfaction rates and a willingness to use a bank's services. Loyal customers, in turn, develop brand equity, as this elite group will begin to create a competitive advantage through WOM, driving business growth (Xiao & Zeng, 2024). The use of virtual channels, such as social media, interactive websites, and mobile apps, encourages customers to engage in greater virtual interaction with the brand, thereby increasing their loyalty (Gui et al., 2021). The digital age greatly benefits virtual interactivity, generating greater engagement with digital customers, connecting them with the brand's online community, and potentially developing higher levels of customer loyalty (Islam et al., 2018). These online communities allow customers to connect, share experiences, and recommend bank products/services, which in turn can develop a sense of belonging and brand attachment (Wongsansukcharoen, 2022; M. Zhang et al., 2020).

Based on the above, the following hypotheses of the cognitive path are presented:

H1: *Virtual interactivity has a positive and significant effect on trust.*

H4: *Trust has a positive and significant effect on commitment.*

H6: *Commitment has a positive and significant effect on customer loyalty.*

H11: *Trust and commitment sequentially mediate the relationship between virtual interactivity and customer loyalty, such that virtual interactivity increases brand trust, which generates greater consumer commitment, which ultimately results in higher levels of customer loyalty.*

2.6.2. Communication Path: VI → Communication → Conflict Handling → Customer Loyalty

This path is based on Computer-Mediated Communication Theory (Walther, 1996) and Relationship Management Theory (Grönroos, 2004), proposing that virtual interactivity

improves communication quality, which facilitates proactive conflict management and generates greater customer loyalty.

Nowadays, people can interact with each other online and feel more connected to a specific brand, which generates a high level of trust. The more they interact with a virtual platform, the more they will trust that it will provide them with the information they need. Recent studies highlight the importance of online interaction in fostering trust among users (X. Liu et al., 2022). On the other hand, Arghashi and Yuksel (2022) showed that when people have a strong emotional experience, they trust the online community more and are more likely to engage with the brand. Trust is an important factor when it comes to how often people use social media and when they participate in brand communities (Phua et al., 2017). When customers perceive virtual interactivity as increasingly interactive, it can build brand trust, which is critical for the long-term success of any platform (Arghashi & Yuksel, 2022; Ye et al., 2024).

When customers interact with a brand's content, it creates a pleasant and exciting experience that maintains their interest and potentially generates greater brand commitment (K. Jia et al., 2022; X. Liu et al., 2022; H. Zhang et al., 2014). Thanks to virtual interactivity, customer–brand communication has substantially improved. Studies indicate that people experience greater joy and satisfaction in their communication when they can interact and converse online. This can also develop a sense of community and increase the use of virtual connections with the brand (X. Liu et al., 2023; Muftah, 2023; Wang et al., 2013). On the other hand, the ability to connect virtually helps manage conflicts more effectively, as customers who maintain strong ties with the brand tend to develop effective communication and, as a result, can create a more sustainable relationship (Guevara et al., 2015; Pazos, 2012; Turesky et al., 2020).

Based on the above, the following hypotheses of the communication path are presented:

H2: *Virtual interactivity has a positive and significant effect on communication.*

H5: *Communication has a positive and significant effect on conflict handling.*

H7: *Conflict handling has a positive and significant effect on customer loyalty.*

H12: *Communication and conflict handling sequentially mediate the relationship between virtual interactivity and customer loyalty. Specifically, virtual interactivity enhances communication, which strengthens conflict handling effectiveness, ultimately resulting in greater customer loyalty.*

2.6.3. Experiential Path: VI → Brand Love → WOM/Customer Loyalty

This path integrates the Consumer Information Processing Model (Bettman, 1979) with the Brand Love Theory (Carroll & Ahuvia, 2006), suggesting that virtual interactivity increases cognitive processing, which facilitates the development of intense emotional bonds (brand love), generating both recommendations and loyalty. During the digital era, WOM has been impacted by brands' digital channels (K. Jia et al., 2022). Every customer who interacts with a brand through its various online platforms shares opinions and experiences with other customers (Ismagilova et al., 2020), which can influence their purchasing decision (Sinha, 2021). Customer concerns, recommendations, and comments could be addressed if virtual interactivity is developed, and therefore positive WOM is achieved (Rubalcava de León et al., 2019). This, in turn, can improve customer satisfaction and foster the creation of online communities, allowing WOM to remain a key factor in building brand loyalty and making it easier for customers to remember the brand (Wongsansukcharoen, 2022). WOM contributes to reducing the perceived risk associated with product/service purchases (Rahman et al., 2023). In the online banking context, WOM

has been identified as the communication of pleasant customer experiences with a digital banking service (Mukerjee, 2018). In the context of online services, consumers rely on other users' opinions, suggestions, and discussion forums on websites, official social media blogs, personal blogs, and other platforms where user-generated information makes it easier for customers to make suggestions and share their experiences (Dangaiso et al., 2024).

Previous studies confirm that virtual interactivity has a positive impact on customer behavior before purchasing (C. Liu et al., 2020). Maintaining interactivity between the company and its users helps increase hedonic motivation and strengthens customer engagement online. This drives companies to invest in creating quality content to engage customers online, and generate brands that are more aware of the digital environment (Dabbous & Barakat, 2020). In addition, virtual interactivity motivates customers to create their own content, thus generating greater brand recognition and a higher purchase intention. Therefore, by feeling involved in the creation of brand-related content, customers develop a deeper bond and a more conscious and solid attitude towards it (K. Jia et al., 2022).

From this perspective, Larregui-Candelaria et al. (2019) state that virtual consumer interactions influence the emotional connection with a brand. This is because customers tend to interact with brands that align with their own identity and values, which allows for the creation of an emotional bond between consumers and brands. Therefore, it is essential that companies strive to convey a sense of understanding and appreciation toward their customers. Likewise, the emotional connection between the consumer and the brand fosters a sense of identification, in which the customer is able to defend and support the brand in the face of any threat (Belanche et al., 2021). This emotional loyalty is crucial to maintaining a strong and lasting relationship with customers.

Based on the above, the following hypotheses of the experiential path are presented:

H3: *Virtual interactivity has a positive and significant effect on brand love.*

H8: *Brand love has a positive and significant effect on customer loyalty.*

H9: *Brand love has a positive and significant effect on WOM.*

H10: *Customer loyalty has a positive and significant effect on WOM.*

H13a: *Brand love and customer loyalty sequentially mediate the relationship between virtual interactivity and WOM, such that virtual interactivity increases brand love, which strengthens customer loyalty, which ultimately translates into greater WOM.*

H13b: *Brand love sequentially mediates the relationship between virtual interactivity and WOM. Specifically, virtual interactivity generates brand love, which ultimately translates into loyalty behaviors.*

Taking into account the aforementioned hypotheses, the proposed theoretical model is visualized, as represented in Figure 1.

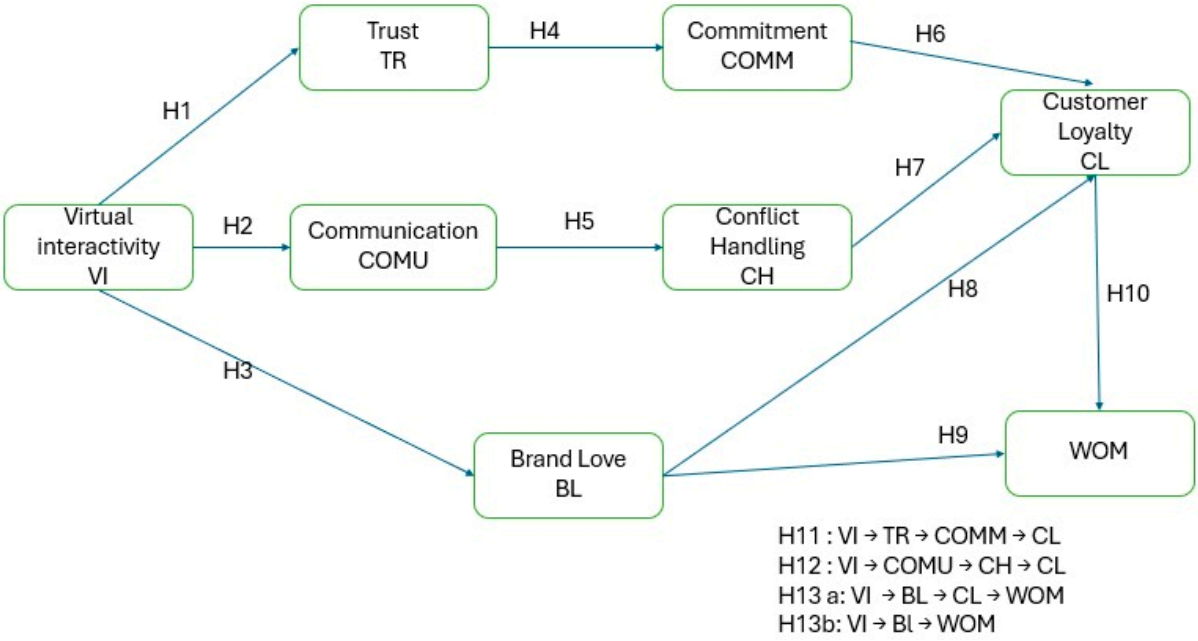

Figure 1. Theoretical model proposed.

3. Materials and Methods

3.1. Study Design and Participants

The study design was cross-sectional and explanatory (Ato et al., 2013). The population consisted of banking product/service customers in Lima, the capital of Peru. Non-probability convenience sampling was used to collect data for this research (Hair et al., 2013; Otzen & Manterola, 2017). This type of sampling makes it possible to select cases that can be easily accessed and that are willing to participate (easy accessibility and proximity of the individuals to the researcher). Inclusion criteria were applied, such as (a) being at least 18 years old, (b) residing in the city of Lima, and (c) being affiliated with a banking product or service in Peru. The virtual survey was shared with 600 people who met all inclusion criteria; however, only a total of 417 customers, aged between 19 and 52 years (M = 30.9 and SD = 6.0), completed the survey. Participation was predominantly female (60.7%), aged between 25 and 34 years (63.3%), from the Peruvian coast (41.5%), and had been customers of a particular brand for 6 to 10 years (46.3%), as detailed in Table 1. It is important to note that a filter element, relevant to the study, was incorporated: "Bank that I use most frequently and follow on social media".

3.2. Measurement Scales and Adaptation Process

Prior to data collection, the translation, adaptation, and semantic validation processes were carried out. A back-translation process was conducted, meaning that a professional translator, who is bilingual and experienced in translating between English and Spanish, translated the scales whose original versions were published in English (customer loyalty and relationship marketing). This method made it possible to avoid any discrepancies or loss of meaning from the original instrument (Behr, 2017). The translated scales were subsequently presented in an online focus group session with six participants who met the study's inclusion criteria (Krueger & Casey, 2000). The meeting lasted approximately 35 min, during which time the participants compared, discussed, and adapted the translations to obtain an improved version of the instruments in Spanish, ensuring that each item/statement was understandable, clear, and appropriate for use in a Peruvian population, thus ensuring the semantic validity of both instruments. Following this, an online

questionnaire was created, where brand love was assigned a five-point Likert-type response format, ranging from one, "completely disagree", to five, "completely agree," and the other metrics, ranging from one, "strongly disagree", to five, "strongly agree".

Table 1. Demographic characteristics of the sample.

Characteristic	Category	Frequency	%
Sex	Female	253	60.7
	Male	164	39.3
Age range	19–24 years old	49	11.8
	25–34 years old	264	63.3
	35–44 years old	90	21.6
	45–52 years old	14	3.3
Place of origin	Peruvian Coast	173	41.5
	Peruvian Sierra	133	31.9
	Peruvian Jungle	104	24.9
	Foreign	7	1.7
Years as a customer of the brand	Less than 1 year	14	3.4
	Between 1 and 5 years	182	43.6
	Between 6 and 10 years	193	46.3
	11 years or more	28	6.7
	Total	417	100.0

The online questionnaire was divided into three segments: instructions for completion and informed consent, sociodemographic information, and the measurement scales described below: Relationship marketing (RM), a four-factor scale with 17 items, trust (TR), commitment (COMM), communication (COMU), and conflict management (CH), and customer loyalty (CL), a one-dimensional scale with two items, were both adapted from Malaysia for this study (Ndubisi, 2007). Brand love (BL), a unidimensional scale with three items (Larregui-Candelaria et al., 2019), virtual interactivity (VI), a one-dimensional scale with three items, and word of mouth (WOM), a one-dimensional scale with three items, were metrics adapted from Mexico for this study (Rubalcava de León et al., 2019).

3.3. Procedure and Ethical Considerations

This research was previously reviewed, evaluated, and accepted by the Ethics Committee of the Universidad Peruana Unión (UPEU-2023-CE-EPG-00019). After organizing the online questionnaire on the Google Forms platform, the link was shared with those who met the standardized criteria. The questionnaire remained online for four months during the second half of 2023. Before completing it, candidates were properly instructed regarding their voluntary and anonymous participation. Throughout this study, data privacy regulations and the guidelines established in the Declaration of Helsinki were respected (Manzini, 2000; Puri et al., 2009).

3.4. Data Analysis

To perform the statistical analysis of the data, partial least squares (PLS)-SEM was used to test the hypotheses. PLS-SEM is a comprehensive multivariate statistical analysis approach that includes structural and measurement components to simultaneously examine the relationships between each of the variables in a conceptual model, which has the characteristic of multivariate analysis, i.e., it involves a number of variables equal to or greater than three (Hair et al., 2010). In addition, PLS-SEM was used in this study because it facilitates the construction of theories (Hair et al., 2011). SmartPLS (Version 4.0) was used to perform the PLS-SEM analysis.

To assess common method bias, we implemented Kock's (2015) full collinearity test. Variance inflation factors (VIFs) ranged from 1.000 to 1.918, all substantially below the critical threshold of 3.3, confirming that the model is free of significant CMB contamination. Multigroup analysis was also performed, segmenting the sample by sex (men, n = 164; women, n = 253) and assessing measurement invariance of the model using the MICOM procedure (Henseler et al., 2015). According to this criterion, in Step 2, all p-values from permutation tests must be verified to be greater than 0.05 to confirm compositional invariance and validate comparisons between groups (Rasoolimanesh et al., 2017).

3.5. Structural Model Quality Assessment

To provide a comprehensive assessment of the structural model's quality, multiple evaluation criteria were implemented following contemporary best practices in partial least squares structural equation modeling (Hair et al., 2019). The assessment included four main dimensions: explanatory power (R^2), effect sizes (f^2), predictive relevance (Q^2), and practical significance.

The explanatory power of each endogenous construct was assessed using the coefficients of determination (R^2) and their adjusted versions (adjusted R^2), following the criteria established by Chin (1998), who suggests that R^2 values of 0.67, 0.33, and 0.19 represent substantial, moderate, and weak levels, respectively. Additionally, we calculated the adjusted R^2 to control for the number of predictor variables and sample size, providing a more conservative estimate of the explanatory power (Hair et al., 2017).

To assess the practical significance of the structural relationships, Cohen's effect sizes (f^2) were calculated for each path relationship in the model (Cohen, 1988). The f^2 values were interpreted according to the standard criteria: $f^2 = 0.02$ (small effect), $f^2 = 0.15$ (moderate effect), and $f^2 = 0.35$ (large effect). The calculation was performed using the formula $f^2 = (R^2 \text{ included} - R^2 \text{ excluded})/(1 - R^2 \text{ included})$, where R^2 included represents the explained variance of the endogenous construct when the predictor construct is included in the model, and R^2 excluded when it is excluded (Hair et al., 2017).

The predictive capacity of the model was evaluated using the blindfolding procedure implemented in SmartPLS, calculating Stone–Geisser Q^2 values for all endogenous constructs (Geisser, 1974; Stone, 1974). Following the recommendations of Hair et al. (2019), an omission distance of D = 7 was used to ensure that the sample size was not divisible by the number of omissions. Q^2 values were interpreted according to the established criteria: $Q^2 > 0$ indicates predictive relevance, $Q^2 > 0.25$ represents moderate predictive relevance, and $Q^2 > 0.50$ indicates high predictive relevance (Hair et al., 2017).

Finally, to assess statistical significance with practical relevance, a dual approach was adopted that considers both the *p*-values obtained through bootstrapping (statistical significance) and the f^2 effect sizes (practical significance), following the recommendations of Ferguson (2009). This approach allows for the identification of statistically significant but practically irrelevant relationships, as well as for the distinction between effects that are both statistically significant and practically substantial (Kirk, 1996). In addition, practical relevance was assessed by inspecting the 95% bootstrapping confidence intervals, considering that intervals that do not include zero indicate both statistical significance and practical relevance (Cumming, 2014).

4. Results

As shown in Table 2, the constructs evaluated in the study meet the acceptable criteria of reliability (α and CR > 0.70) and convergent validity (AVE > 0.50) (Sarstedt et al., 2021). In this sense, brand love (BL) obtained a Cronbach's alpha (α) of 0.908, CR of 0.916, and AVE of 0.845, with factor loadings between 0.902 and 0.950. Conflict handling (CH) registered an

α of 0.842, CR of 0.846, and AVE of 0.760, with loadings between 0.831 and 0.900. Customer loyalty (CL) had an α and CR of 0.791, with an AVE of 0.827 and factor loadings between 0.908 and 0.911. Commitment (COMM) recorded an α and CR of 0.908 and an AVE of 0.783, with factor loadings ranging from 0.870 to 0.902. Communication (COMU) obtained an α of 0.894, CR of 0.970, and AVE of 0.759, with factor loadings between 0.857 and 0.889. Likewise, trust (TR) presented an α of 0.940, CR of 0.909, and AVE of 0.679, with factor loadings between 0.702 and 0.873. Virtual interactivity (VI) registered an α of 0.893, CR of 0.895, and AVE of 0.824, with factor loadings between 0.898 and 0.919. Finally, word of mouth (WOM) obtained an α of 0.892, CR of 0.895, and AVE of 0.822, with factor loadings in the range of 0.882 to 0.929.

Table 2. Factor loadings, composite reliability, and mean variance extracted.

Variable	Code	Loadings	α	CR	AVE
Brand Love (BL)	BL1 BL2 BL3	0.902 0.950 0.904	0.908	0.916	0.845
Conflict Handling (CH)	CH1 CH2 CH3	0.882 0.831 0.900	0.842	0.846	0.760
Customer Loyalty (CL)	CL1 CL2	0.911 0.908	0.791	0.791	0.827
Commitment (COMM)	COMM1 COMM2 COMM3 COMM4	0.870 0.877 0.891 0.902	0.908	0.908	0.783
Communication (COMU)	COMU1 COMU2 COMU3 COMU4	0.869 0.857 0.870 0.889	0.894	0.897	0.759
Trust (TR)	TR1 TR2 TR3 TR4 TR5 TR6	0.702 0.833 0.839 0.811 0.873 0.873	0.904	0.909	0.679
Virtual Interactivity (VI)	VI1 VI2 VI3	0.919 0.907 0.898	0.893	0.895	0.824
Word of Mouth (WOM)	WOM1 WOM2 WOM3	0.882 0.929 0.908	0.892	0.895	0.822

To evaluate the discriminant validity of the model, this study applied the Heterotrait–Monotrait (HTMT) ratio criterion, which measures the relationship between latent constructs by comparing the correlation between their indicators (Henseler et al., 2015). According to this criterion, discriminant validity is considered to be achieved if HTMT < 0.90 (flexible criterion) or HTMT < 0.85 (stricter criterion, used in models with high conceptual similarity between constructs). In the present study, all the relationships between constructs meet this requirement, since the HTMT values ranged from 0.529 to 0.817, indicating that they were below the permissible threshold. Table 3 presents the details of these results.

Table 3. Heterotrait–Monotrait ratio for discriminant validity.

	BL	CH	CL	COMM	COMMU	TR	VI	WOM
BL								
CH	0.573							
CL	0.565	0.718						
COMM	0.562	0.754	0.659					
COMMU	0.573	0.817	0.742	0.792				
TR	0.667	0.769	0.747	0.766	0.781			
VI	0.629	0.767	0.816	0.662	0.741	0.739		
WOM	0.533	0.572	0.658	0.598	0.591	0.610	0.663	

To address potential common method bias (CMB), we applied Kock's (2015) complete collinearity test. The results show that the variance inflation factors (VIFs) ranged from 1.000 to 1.918, all substantially below the critical threshold of 3.3, confirming that the model is free from significant CMB contamination. This can be seen in Table 4.

Table 4. Collinearity statistics (VIFs)—inner model→list.

	VIF
BL → CL	1.456
BL → WOM	1.305
CH → CL	1.893
CL → WOM	1.305
COMM → CL	1.918
COMU → CH	1.000
TR → COMM	1.000
VI → BL	1.000
VI → COMU	1.000
VI → TR	1.000

The MICOM invariance test confirmed that the comparisons were methodologically valid (all p values > 0.05), indicating that men and women interpreted the constructs equally (See Table 5).

Table 5. MICOM invariance assessment.

Constructor	Original Correlation	Correlation Permutation Mean	5.0%	Permutation p Value	Interpretation
BL	1.000	1.000	0.999	0.947	Invariance Confirmed
CH	1.000	1.000	0.999	0.370	Invariance Confirmed
CL	0.999	1.000	0.998	0.151	Invariance Confirmed
COMM	1.000	1.000	1.000	0.101	Invariance Confirmed
COMU	1.000	1.000	1.000	0.917	Invariance Confirmed
TR	0.999	0.999	0.998	0.087	Invariance Confirmed
VI	1.000	1.000	0.999	0.494	Invariance Confirmed
WOM	1.000	1.000	0.999	0.560	Invariance Confirmed

The multi-group analysis revealed no statistically significant differences between men and women in the main path coefficients (all $p > 0.05$), suggesting that the effects of virtual interactivity operate similarly regardless of the consumer's sex (see Table 6).

Table 6. Multi-group analysis by sex: comparison of path coefficients.

Relationship	Man	Woman	Difference	*p* Value	Significance	Interpretation
BL → CL	0.146	0.244	−0.098	0.347	Not significant	Equivalent between groups
BL → WOM	0.251	0.316	−0.065	0.607	Not significant	Equivalent between groups
CH → CL	0.338	0.336	0.003	0.981	Not significant	Equivalent between groups
CL → WOM	0.463	0.367	0.096	0.391	Not significant	Equivalent between groups
COMM → CL	0.271	0.199	0.072	0.534	Not significant	Equivalent between groups
COMU → CH	0.683	0.727	−0.044	0.564	Not significant	Equivalent between groups
TR → COMM	0.667	0.717	−0.049	0.474	Not significant	Equivalent between groups
VI → BL	0.533	0.603	−0.070	0.467	Not significant	Equivalent between groups
VI → COMU	0.653	0.677	−0.024	0.785	Not significant	Equivalent between groups
VI → TR	0.667	0.667	−0.001	0.997	Not significant	Equivalent between groups

Figure 2 presents the final structural model developed in SmartPLS, which illustrates the causal relationships between virtual interactivity and its effects on consumer relational variables through three distinct mediation paths. The model employs a standard graphical representation, where latent constructs are shown as blue circles with their respective R^2 values, observable variables appear as yellow rectangles, and structural relationships are represented by directional arrows with their standardized path coefficients and significance levels.

All constructs employ reflective measurement models, with indicators showing factor loadings greater than 0.70, meeting individual item reliability criteria. The dependent constructs (CL and WOM) have two indicators each, while IV includes three indicators, and the mediating constructs vary between two and four indicators. Regarding the pathways, it can be observed that the cognitive pathway (VI → TR → COMM → CL) is displayed at the top of the model, starting from VI to TR ($\beta = 0.665$, $p < 0.001$), continuing to COMM ($\beta = 0.696$, $p < 0.001$), and ending at CL ($\beta = 0.242$, $p < 0.001$). The graphical representation shows a linear progression that reflects the theoretical logic of the sequential development of trust and commitment. Regarding the communication path (VI → COMU → CH → CL), located in the central section of the model, it shows a progression from VI to COMU ($\beta = 0.664$, $p < 0.001$), followed by the strongest relationship in the model toward CH ($\beta = 0.710$, $p < 0.001$), and culminating in CL ($\beta = 0.329$, $p < 0.001$). The central position emphasizes its role as a primary mechanism for generating loyalty.

Finally, the experiential path (VI → BL → WOM/CL), positioned at the bottom, presents a bifurcated structure where VI influences BL ($\beta = 0.572$, $p < 0.001$), which subsequently affects both WOM ($\beta = 0.280$, $p < 0.001$) and CL ($\beta = 0.193$, $p < 0.001$). This visual configuration reflects the dual nature of brand love as a generator of both positive word of mouth and loyalty.

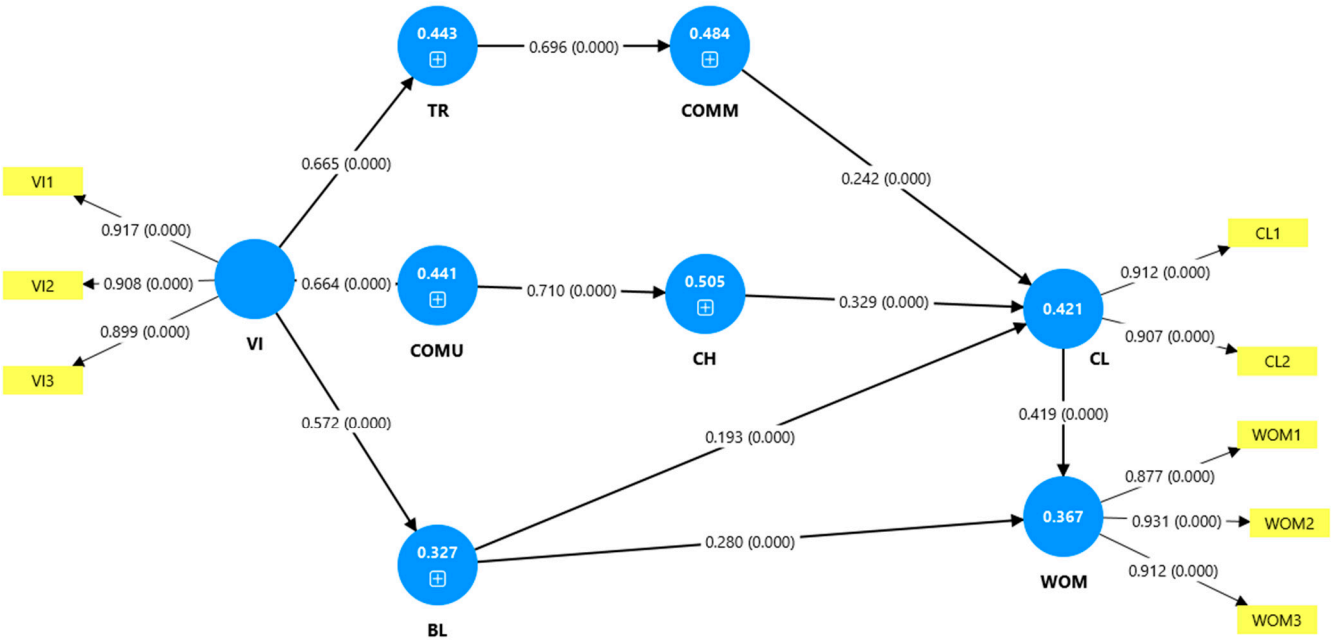

Figure 2. Structural model.

Table 7 presents the Path Hypothesis Testing. The results confirm the empirical validity of the cognitive path as a fundamental mechanism for generating customer loyalty through the sequential processes of trust and commitment. Virtual interactivity demonstrated a significant and robust direct effect on brand trust (H1: β = 0.665, t = 15.721, $p < 0.001$), followed by an equally strong effect of trust on consumer commitment (H4: β = 0.696, t = 20.642, $p < 0.001$), representing the strongest relationship between mediating constructs in the entire model. However, the conversion of psychological commitment into behavioral loyalty exhibited a more moderate effect (H6: β = 0.242, t = 4.463, $p < 0.001$), suggesting that while virtual interactivity is highly effective in generating relational cognitive processes, the final translation into loyalty behaviors requires complementary factors. The sequential mediation hypothesis (H11: VI → TR → COMM → CL) was supported with a significant indirect effect of 0.112 (t = 3.876, $p < 0.001$), empirically validating the extension of the Commitment–Trust Model (Morgan & Hunt, 1994) to virtual interactivity contexts and confirming that traditional relational processes maintain their relevance in contemporary digital environments.

The communication path emerged as the model's most effective mechanism for generating customer loyalty, highlighting the critical importance of communication management in interactive digital environments. Virtual interactivity exerted a positive and significant effect on perceived communication quality (H2: β = 0.664, t = 15.969, $p < 0.001$), establishing a solid foundation for effective two-way exchanges. Crucially, perceived communication predicted conflict management ability with the highest t statistic in the entire model (H5: β = 0.710, t = 19.598, $p < 0.001$), evidencing that interactive platforms not only facilitate communication, but also enable proactive and competent problem-solving. Conflict management capability subsequently generated a moderately strong effect on customer loyalty (H7: β = 0.329, t = 5.241, $p < 0.001$), outperforming the effect of commitment on the cognitive route and confirming that consumers particularly value organizational competence to effectively manage problems through digital media. The sequential mediation hypothesis (H12: VI → COMU → CH → CL) was supported by the strongest indirect effect in the model (β = 0.155, t = 4.229, $p < 0.001$), extending the Computer-Mediated Communication Theory (Walther, 1996) and establishing communication management as the most potent mechanism for converting virtual interactivity into customer behavioral loyalty.

Table 7. Hypothesis testing.

H	Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	*p* Values	Decision
H1	VI → TR	0.665	0.664	0.042	15.721	0.000	Accepted
H2	VI → COMU	0.664	0.663	0.042	15.969	0.000	Accepted
H3	VI → BL	0.572	0.571	0.045	12.793	0.000	Accepted
H4	TR → COMM	0.696	0.696	0.034	20.642	0.000	Accepted
H5	COMU → CH	0.710	0.709	0.036	19.598	0.000	Accepted
H6	COMM → CL	0.242	0.241	0.054	4.463	0.000	Accepted
H7	CH → CL	0.329	0.331	0.063	5.241	0.000	Accepted
H8	BL → CL	0.193	0.191	0.048	4.009	0.000	Accepted
H9	BL → WOM	0.280	0.280	0.059	4.761	0.000	Accepted
H10	CL → WOM	0.419	0.419	0.055	7.675	0.000	Accepted
H11	VI → TR → COMM → CL	0.112	0.112	0.029	3.876	0.000	Accepted
H12	VI → COMU → CH → CL	0.155	0.157	0.037	4.229	0.000	Accepted
H13a	VI → BL → CL → WOM	0.046	0.046	0.015	3.081	0.002	Accepted
H13b	VI → BL → WOM	0.160	0.161	0.040	4.050	0.000	Accepted

The experiential path revealed a unique dual-operation pattern that differentiates between the generation of emotional advocacy and traditional loyalty behaviors, challenging conventional theoretical expectations about brand love. Virtual interactivity significantly influenced the development of brand love (H3: $\beta = 0.572$, $t = 12.793$, $p < 0.001$), confirming that interactive digital experiences facilitate the formation of intense emotional bonds. However, brand love displayed a distinct and counterintuitive pattern of effects: it generated a stronger impact on positive word of mouth (H9: $\beta = 0.280$, $t = 4.761$, $p < 0.001$) than on behavioral loyalty (H8: $\beta = 0.193$, $t = 4.009$, $p < 0.001$), suggesting that emotional bonds motivate spontaneous advocacy more effectively than repeat purchase behaviors in digital contexts. The corresponding mediation hypotheses confirmed this functional differentiation: the indirect effect towards WOM (H13b: VI → BL → WOM = 0.160, $t = 4.050$, $p < 0.001$) outweighed the effect towards loyalty, while the multiple sequential mediation path (H13a: VI → BL → CL → WOM = 0.046, $t = 3.081$, $p = 0.002$) reached statistical significance with a small effect size. Paradoxically, customer loyalty more strongly predicted recommendations (H10: $\beta = 0.419$, $t = 7.675$, $p < 0.001$) than direct emotional love, suggesting that in virtual environments, consistent behavioral satisfaction constitutes a more robust predictor of advocacy than purely emotional ties, thus recontextualizing the Brand Love Theory (Carroll & Ahuvia, 2006) for digital environments where functionality may predominate over emotionality in generating authentic recommendations.

To provide a comprehensive assessment of the model, we analyzed multiple quality indicators including the explanatory power (R^2), effect sizes (f^2), and predictive relevance (Q^2). The results reveal a robust model with an explanatory power ranging from moderate to substantial. In terms of explanatory power, the mediating constructs showed substantial R^2s, indicating that their antecedents explain a considerable portion of their variance: CH (50.5%), COMM (48.4%), TR (44.2%), and COMU (44.1%). The dependent constructs exhibited moderate to substantial explanatory power: CL (42.1%) and WOM (36.7%). Notably, BL showed the lowest R^2 (32.7%), suggesting the existence of additional factors influencing the development of brand love in digital contexts. Effect size analysis (f^2) revealed that the most influential relationships in the model included COMU → CH ($f^2 = 1.019$) and TR → COMM ($f^2 = 0.939$), both classified as very large effects according

to Cohen's (1988) criteria. The effects of VI on the primary mediators were also large, confirming the substantial importance of virtual interactivity: VI → TR ($f^2 = 0.794$), VI → COMU ($f^2 = 0.788$), and VI → BL ($f^2 = 0.485$). Predictive relevance assessment using Q^2 showed that all constructs exceeded the relevance threshold ($Q^2 > 0$), with values ranging from 0.222 (BL) to 0.439 (TR and COMU). This confirms that the model has satisfactory predictive capacity for all endogenous constructs. This can be seen in Table 8.

Table 8. Full model evaluation: explanatory power, effect sizes, and predictive relevance.

Construct	R^2	Adjusted R^2	Interpretation R^2	Q^2	Interpretation Q^2	Main Predictors (f^2)
BL	0.327	0.325	Moderate	0.222	Moderate predictive relevance	VI ($f^2 = 0.485$)—Big
CH	0.505	0.504	Substantial	0.403	Large predictive relevance	COMU ($f^2 = 1.019$)—Big
CL	0.421	0.417	Moderate–Substantial	0.373	Large predictive relevance	CH ($f^2 = 0.099$)—Small, COMM ($f^2 = 0.053$)—Small
COMM	0.484	0.483	Substantial	0.335	Moderate–large predictive relevance	TR ($f^2 = 0.939$)—Big
COMU	0.441	0.439	Moderate–Substantial	0.439	Large predictive relevance	VI ($f^2 = 0.788$)—Big
TR	0.442	0.441	Moderate–Substantial	0.439	Large predictive relevance	VI ($f^2 = 0.794$)—Big
WOM	0.367	0.364	Moderate	0.273	Moderate predictive relevance	CL ($f^2 = 0.212$)—Moderate, BL ($f^2 = 0.095$)—Small

5. Discussion

Relationship marketing has gained a prominent place in the business world, not only because it marks a transition from a transactional approach to one more focused on building ongoing relationships between stakeholders, but also because it promotes an organizational awareness that drives value creation from different spheres: academia, business management, and marketing leaders (Gómez-Bayona et al., 2024). This study fits precisely into this scenario, demonstrating how virtual interactivity, far from being a simple communication channel, acts as a strategic driver that transforms customer–brand relationships. An analysis of the behavior of 417 individuals confirms that virtual interactivity generates a tangible impact on key variables such as trust, communication, conflict management, and brand love. These variables highlight the fundamental aspects of relationship marketing in digital environments, where interactive experiences strengthen brand identity and stimulate loyal consumer behavior (Cachero-Martínez & Vázquez-Casielles, 2021; De Ruyter & Wetzels, 2000).

Particularly in sectors such as financial services, the implementation of relational digital strategies contributes to developing two-way and personalized communication, which is essential for interpreting consumer tastes, needs, and expectations (Gaines, 2019). This capacity for dynamic interaction is precisely what builds the bridge between the brand and its audience, consolidating its positioning and generating meaningful emotional bonds. The empirical results of this work reaffirm the importance of these interactions on three levels.

In the cognitive path, the model demonstrates how virtual interactivity generates trust ($\beta = 0.665$) and how that trust transforms into commitment ($\beta = 0.696$). Following the

logic of the Morgan and Hunt (1994) model, although the transition from commitment to customer loyalty shows a lower intensity (β = 0.242), it is still relevant, although it requires strengthening additional factors such as service experience or personalization to fully close this relational cycle. Even more compelling is the role of the communication route, where digital interactivity positively influences communication quality (β = 0.664), which, in turn, enhances conflict management (β = 0.710). These results not only confirm Walther's (1996) predictions about the effectiveness of computer-mediated communication, but also position this route as the most influential in the model in terms of loyalty conversion (total indirect effect = 0.155). Effective conflict management emerges as a key differential, even more so in service contexts where the perception of rapid and effective resolution makes a decisive difference in the customer experience (Grönroos, 2004; Smith et al., 1999).

Regarding the experiential route, the analysis reveals a more emotional and dual dynamic. On the one hand, digital interactivity increases cognitive processing and generates emotional bonds (brand love) with the brand (β = 0.481), following the proposal by Carroll and Ahuvia (2006). However, it is observed that brand love has a greater influence on positive word of mouth (β = 0.280) than on direct loyalty (β = 0.193). This is particularly interesting: in digital environments, emotional expression tends to be channeled more into spontaneous recommendations than repeat purchases. In this sense, loyalty based on specific behaviors seems to have a greater weight on WOM (β = 0.419), which suggests that consistent satisfaction has a greater predictive power than pure emotions.

This finding implies an adjustment to the classic theories of emotional marketing. Rather than conceiving brand love as the core of loyalty, this study proposes that brand love acts as a trigger for advocacy, while loyalty is built on rational and trustworthy experiences. This distinction is key for marketers, who must recognize that in the digital environment, emotional bonds are relevant but must be accompanied by a coherent functional value proposition.

Taken together, the results highlight the importance of incorporating virtual interactivity as a structural component of relationship marketing strategies (Cachero-Martínez & Vázquez-Casielles, 2021; Nambisan & Baron, 2007). Organizations that understand and capitalize on these mechanisms will be able to improve the quality of their customer relationships, foster lasting bonds, and build more human and relatable brands. Furthermore, the evidence from this study is consistent with the scientific reports of Yan et al. (2024), who highlight how transparent communication and genuine engagement generate greater peace of mind for consumers and, therefore, strengthen the brand's reputation and positioning. It is necessary to mention that this type of model also shows that digital tools not only serve to attract customers, but, well managed, they allow for continuous support, anticipating conflicts, personalizing responses, and maintaining an active dialogue with audiences. Thus, the contribution of relationship marketing is not only limited to the business field, but, as Gómez-Bayona et al. (2024) point out, it also becomes an opportunity to educate communities on the importance of trust, satisfaction, and loyalty as shared values that contribute to the development of a more conscious organizational culture. This study not only validates the theoretical hypotheses raised, but also confirms the validity of traditional models (Carroll & Ahuvia, 2006; Morgan & Hunt, 1994) by reinterpreting them in a digital key, where virtual interactivity is shown as a multifaceted relational medium, capable of activating cognitive, communicational, and affective processes, and translating them into real behaviors that benefit both brands and consumers.

6. Conclusions

Virtual interactivity in marketing has evolved significantly in recent decades, becoming an essential tool for effectively connecting with consumers in digital environments.

Through interactive digital platforms, brands can generate a two-way dialogue with their customers, allowing them to obtain instant feedback and adapt their strategies quickly and effectively. This not only improves brand image but also contributes to strengthening brand image and fostering long-term loyalty. In this context, this research aimed to analyze the effect of virtual interactivity on customer loyalty and WOM through multiple sequential mediation pathways, considering the elements of relationship marketing and examining the cognitive (trust–commitment), communication (communication–conflict management), and experiential (brand love–WOM) mechanisms at work in digital interactions between consumers and brands.

The study's hypotheses confirmed the proposed model, which considered trajectory theory: the cognitive trajectory (trust–commitment), which extends the Commitment–Trust Model to the context of virtual interactivity; the communicational trajectory (communication–resolution), which integrates Computer-Mediated Communication Theory with customer relationship management; and the experiential trajectory (cognitive–affective), which combines cognitive processing with affective responses, and extends the Brand Love Theory to interactive digital environments. In this sense, this research provides valid results related to the digital world in banking contexts and considers applicable implications for business and industry management, which are detailed in the subsequent sections.

6.1. Theoretical and Practical Implications

From a theoretical perspective, this study enriches the literature by integrating path theory (cognitive, communicational, and experiential) with an empirical analysis of virtual interactivity, explaining how people process information, generate connections, and make decisions in complex digital contexts such as the banking sector. The cognitive path extends the Commitment–Trust Model, demonstrating that trust and commitment can be activated through interactive technologies. The communicational path, based on Computer-Mediated Communication Theory, shows how digital platforms facilitate proactive conflict resolution and improve relationship management. The experiential path articulates cognitive processing with affective responses (brand love), extending the Brand Love Theory to virtual environments. This approach not only allows us to understand how virtuality transforms the interaction between banks and customers in aspects such as functionality, experience, security, and loyalty, but also offers a solid framework for the design of evidence-based models and strategies, useful both for academic purposes and for innovation and competitiveness in the digital industry.

As a practical implication, this study suggests that organizations operating in digital environments, such as the banking sector, should adopt a comprehensive approach based on the three pathways. From the cognitive pathway, it is recommended to design interactive experiences that strengthen customer trust and engagement. From the communication pathway, it is key to implement tools that facilitate effective two-way communication and early conflict resolution. Finally, the experiential pathway encourages the creation of interactions that not only increase brand recognition but also generate lasting emotional bonds, promoting customer loyalty and advocacy spontaneously.

It is important to recognize that, in the digital age, relationships between companies and customers have evolved toward closer and more meaningful interactions. Virtual interactivity not only transforms the way brands communicate with their audiences but also strengthens bonds of trust and loyalty. When a company manages to genuinely connect with its customers, they feel valued and heard, which reduces the likelihood of them migrating to competitors. Furthermore, the ability to personalize the customer experience in real time allows for more dynamic and effective relationship marketing

strategies. Each interaction becomes an opportunity to better understand customer needs and expectations, adjusting the offer of products or services more precisely.

Beyond commercial strategies, virtual interactivity contributes to building a solid reputation and a brand identity with which customers can emotionally identify. This connection goes beyond a simple commercial transaction: when people trust and value a brand, they not only remain loyal to it but also recommend it, generating a positive impact on its growth and sustainability. In a constantly changing digital environment, those companies that manage to humanize their communication and adapt to their audience's expectations not only stand out in competitive markets, but also ensure their long-term relevance. From a theoretical perspective, it has been proven that effective digital communication fosters brand love and positive word of mouth, consolidating its impact on customer loyalty and business development.

On the other hand, promoting brand affection through prompt, reliable, honest, and accurate information will contribute to developing a stronger and more lasting brand. Customers tend to feel affection for a brand when banks address complaints and other issues effectively, aiming to anticipate potential sources of conflict before they arise. This will allow the brand to build customer loyalty, strengthening their bond in situations of loss and fraud, which are, above all, key aspects in this sector. Finally, it is essential to foster clear communication and address conflicts diplomatically to reduce unnecessary losses and problems for customers. An important aspect is WOM, as it can influence other customers. Therefore, it is essential to create strategies to improve this element in the banking sector, as this encourages customers to choose one brand over another.

6.2. Limitations and Future Research

This research acknowledges a significant contribution to the academic community and the banking sector; however, some limitations have been identified that would be valuable to consider for future studies. Initially, the respondents were residents of Lima, the capital of Peru, famous for being a populous and culturally diverse city, where its inhabitants come from diverse areas of the country. However, future research is likely to consider other significant regions of the country, including cities located by the Peruvian coast, mountains, and jungle, in order to achieve more homogeneous participation and perception. Furthermore, the descriptive data indicated that 63.3% of respondents were between 25 and 34 years old. This research focuses on a fairly young segment of the Peruvian banking population, raising potential doubts regarding their opinions of the sector, preventing the results from being generalized to other age groups. Further research could examine psychosocial, sociodemographic, and specific environmental factors to better understand their behavior.

Author Contributions: Conceptualization, M.V.-G.; methodology, M.V.-G. and I.F.-M.; software, E.E.G.-S. and D.V.; validation, M.V.-G.; formal analysis, E.E.G.-S. and D.V.; investigation, M.V.-G., I.F.-M., and D.V.; resources, M.V.-G. and I.F.-M.; data curation, E.E.G.-S. and D.V.; writing—original draft preparation, M.V.-G., E.E.G.-S., L.G.-B., I.F.-M., D.V., and M.P.-A.; writing—review and editing, M.V.-G., E.E.G.-S., L.G.-B., I.F.-M., D.V., and M.P.-A.; visualization, M.V.-G.; supervision, M.V.-G.; project administration, M.V.-G.; funding acquisition, M.V.-G., E.E.G.-S., L.G.-B., and D.V. All authors have read and agreed to the published version of the manuscript.

Funding: The APC was funded by the "Universidad Peruana Unión", "Universidad Autónoma del Perú", and "Instituto Tecnológico Metropolitano".

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Ethics Committee of the Graduate School of the Universidad Peruana Unión (protocol code UPEU-2023-CE-EPG-00019 and 16 February 2023).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data availability can be requested by writing to the corresponding author of this publication.

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

Abbreviations

The following abbreviations are used in this manuscript:

VI	Virtual interactivity
TR	Trust
COMM	Commitment
COMMU	Communication
CH	Conflict handling
WOM	Word of mouth
CL	Customer loyalty
BL	Brand love
M	Median
SD	Standard deviation
CR	Composite reliability
AVE	Mean variance extracted

References

Aljumah, A. I., Nuseir, M. T., & El Refae, G. A. (2023). Examining the effect of social media interaction, E-WOM, and public relations: Assessing the mediating role of brand awareness. *International Journal of Data and Network Science*, *7*(1), 467–476. [CrossRef]

Amegbe, H., Dzandu, M. D., & Hanu, C. (2021). The role of brand love on bank customers' perceptions of corporate social responsibility. *International Journal of Bank Marketing*, *39*(1), 189–208. [CrossRef]

Arghashi, V., Bozbay, Z., & Karami, A. (2021). An integrated model of social media brand love: Mediators of brand attitude and consumer satisfaction. *Journal of Relationship Marketing*, *20*(4), 319–348. [CrossRef]

Arghashi, V., & Yuksel, C. A. (2022). Interactivity, inspiration, and perceived usefulness! How retailers' AR-apps improve consumer engagement through flow. *Journal of Retailing and Consumer Services*, *64*, 1–20. [CrossRef]

Arndt, J. (1967). Role of product-related conversations in the diffusion of a new product. *Source: Journal of Marketing Research*, *4*(3), 291–295. [CrossRef]

Arora, P., & Banerji, R. (2024). The impact of digital banking service quality on customer loyalty: An interplay between customer experience and customer satisfaction. *Asian Economic and Financial Review*, *14*(9), 712–733. [CrossRef]

Ato, M., López, J. J., & Benavente, A. (2013). Un sistema de clasificación de los diseños de investigación en psicología. *Anales de Psicologia*, *29*(3), 1038–1059. [CrossRef]

Azila-Gbettor, E. M., Atatsi, E. A., Tulasi, E. E., & Ayimey, E. K. (2024). Fostering workplace civility in the financial sector: The influence of ethical leadership practices and ethical work climate. *Social Sciences and Humanities Open*, *9*, 1–8. [CrossRef]

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

Behr, D. (2017). Assessing the use of back translation: The shortcomings of back translation as a quality testing method. *International Journal of Social Research Methodology*, *20*(6), 573–584. [CrossRef]

Belanche, D., Casaló, L. V., Flavián, M., & Ibáñez-Sánchez, S. (2021). Understanding influencer marketing: The role of congruence between influencers, products and consumers. *Journal of Business Research*, *132*, 186–195. [CrossRef]

Bettman, J. R. (1979). *An information processing theory of consumer choice*. Addison-Wesley.

Bey, C., & Moosmayer, D. C. (2023). Making a brand loved rather than sustainable? Cosmopolitanism and brand love as competing communication claims. *Sustainability*, *15*(13), 10402. [CrossRef]

Blau, P. M. (1964). *Exchange and power in social life*. John Wiley & Sons.

Borishade, T., Ogunnaike, O., Kehinde, O., & Aka, D. (2022). Relationship marketing and loyalty of mobile phone customers. *Innovative Marketing*, *18*(3), 38–47. [CrossRef]

Cachero-Martínez, S., & Vázquez-Casielles, R. (2021). Building consumer loyalty through e-shopping experiences: The mediating role of emotions. *Journal of Retailing and Consumer Services*, *60*, 102481. [CrossRef]

Carroll, B. A., & Ahuvia, A. C. (2006). Some antecedents and outcomes of brand love. *Marketing Letters*, *17*(2), 79–89. [CrossRef]

Chin, W. W. (1998). The partial least squares approach to structural formula modeling. *Advances in Hospitality and Leisure*, *8*(2), 295–336.
Choi, C. J., Xu, J. L., & Min, D. G. (2024). Investigating of the influence process on consumer's active engagement through emotional brand attachment and brand love. *Asia Pacific Journal of Marketing and Logistics*, *36*(11), 3061–3080. [CrossRef]
Chow, M. Y. C., & Ho, S. P. S. (2025). Effects of financial consumer protection on brand love and brand advocacy. *Journal of Financial Services Marketing*, *30*(2), 1–15. [CrossRef]
Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Routledge. [CrossRef]
Cumming, G. (2014). The new statistics: Why and how. *Psychological Science*, *25*(1), 7–29. [CrossRef]
Çelik, S., & Topuz, Y. V. (2021). The effect of brand love on the electronic word-of-mouth and repurchase intention. *International Journal of Electronic Marketing and Retailing*, *12*(4), 357–372. [CrossRef]
Dabbous, A., & Barakat, K. A. (2020). Bridging the online offline gap: Assessing the impact of brands' social network content quality on brand awareness and purchase intention. *Journal of Retailing and Consumer Services*, *53*, 101966. [CrossRef]
Damayanti, T. A. (2023). The effect of social media quality, social media quantity, social media credibility and E-Wom on revisit intention: Destination brand awareness and destination satisfaction as intervening variables. *Quality—Access to Success*, *24*(196), 87–97. [CrossRef]
Dangaiso, P., Mukucha, P., Makudza, F., Towo, T., Jonasi, K., & Jaravaza, D. (2024). Examining the interplay of internet banking service quality, e-satisfaction, e-word of mouth and e-retention: A post pandemic customer perspective. *Cogent Social Sciences*, *10*(1), 2296590. [CrossRef]
DataReportal. (2024). *Digital 2024 global overview report*. Available online: https://wearesocial.com/wp-content/uploads/2024/02/Digital_2024_Global.pdf (accessed on 24 March 2025).
De Ruyter, K., & Wetzels, M. G. M. (2000). The impact of perceived listening behavior in voice-to-voice service encounters. *International Journal of Service Industry Management*, *10*(3), 276–284. [CrossRef]
Domagk, S., Schwartz, R. N., & Plass, J. L. (2010). Interactivity in multimedia learning: An integrated model. *Computers in Human Behavior*, *26*(5), 1024–1033. [CrossRef]
Ferguson, C. J. (2009). An effect size primer: A guide for clinicians and researchers. *Professional Psychology: Research and Practice*, *40*(5), 532–538. [CrossRef]
Gaines, B. R. (2019). From facilitating interactivity to managing hyperconnectivity: 50 years of human–computer studies. *International Journal of Human Computer Studies*, *131*, 4–22. [CrossRef]
Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, *61*(1), 101–107. [CrossRef]
Gómez-Bayona, L., Arrubla-Zapata, J. P., Valencia, J. A., & Restrepo-Rojas, M. J. (2020). Analysis of relational marketing strategies in higher education institutions in Colombia and Spain. *Retos*, *10*(20), 343–359. [CrossRef]
Gómez-Bayona, L., Valencia-Arias, A., Orozco-Toro, J. A., Tabares-Penagos, A., & Moreno-López, G. (2024). Importance of relationship marketing in higher education management: The perspective of university teachers. *Cogent Education*, *11*(1), 2332858. [CrossRef]
Grönroos, C. (2004). The relationship marketing process: Communication, interaction, dialogue, value. *Journal of Business and Industrial Marketing*, *19*(2), 99–113. [CrossRef]
Guevara, R., Botero, R., & Castro, C. A. (2015). Una revisión a los niveles de interactividad de los contenidos digitales. *Nuevas Ideas En Informática Educativa TISE*, *11*, 469–473.
Gui, D. Y., Liu, S., Dai, Y., Liu, Y., Wang, X., & Huang, H. (2021). Greater patience and monetary expenditure: How shopping with companions influences purchase decisions. *Journal of Retailing and Consumer Services*, *63*, 102665. [CrossRef]
Gumparthi, V. P., & Patra, S. (2020). The phenomenon of brand love: A systematic literature review. *Journal of Relationship Marketing*, *19*(2), 93–132. [CrossRef]
Hafez, M. (2021). The impact of social media marketing activities on brand equity in the banking sector in Bangladesh: The mediating role of brand love and brand trust. *International Journal of Bank Marketing*, *39*(7), 1353–1376. [CrossRef]
Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis* (7th ed., Vol. 8). Pearson Prentice Hall.
Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2013). *Multivariate data analysis* (8th ed.). Pearson Education Limited.
Hair, J. F., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management and Data Systems*, *117*(3), 442–458. [CrossRef]
Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Castillo, J., Cepeda, G. A., & Roldán, J. L. (2019). *Manual de partial least squares structural equation modeling (PLS-SEM)*. OmniaScience Scholar.
Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139–152. [CrossRef]
Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. [CrossRef]

Hidayat, D. R., Parawansa, D. A. S., Jusni, & Nursyamsi, I. (2024). Customer loyalty: Bibliometric analysis based on Scopus data. *Advances in Economics, Business and Management Research*, *279*, 75–96. [CrossRef]

Hidayat, K., & Idrus, M. I. (2023). The effect of relationship marketing towards switching barrier, customer satisfaction, and customer trust on bank customers. *Journal of Innovation and Entrepreneurship*, *12*(29), 29. [CrossRef]

Hino, H. (2017). Does switching-intention result in a change in behaviour? Exploring the actual behavioural shopping patterns of switching-intended customers. *British Food Journal*, *119*(12), 2903–2917. [CrossRef]

Islam, J. U., Rahman, Z., & Hollebeek, L. D. (2018). Internet research consumer engagement in online brand communities: A solicitation of congruity theory. *Internet Research*, *28*(1), 23–45. [CrossRef]

Ismagilova, E., Slade, E., Rana, N. P., & Dwivedi, Y. K. (2020). The effect of characteristics of source credibility on consumer behaviour: A meta-analysis. *Journal of Retailing and Consumer Services*, *53*, 101736. [CrossRef]

Jaakkola, E., & Aarikka-Stenroos, L. (2019). Customer referencing as business actor engagement behavior—Creating value in and beyond triadic settings. *Industrial Marketing Management*, *80*, 27–42. [CrossRef]

Jalees, T., Alam, S. H., Zaman, S. I., & Qabool, S. (2023). Promotion strategies in consumer paradox towards word of mouth brand equity. *Revista Brasileira de Marketing*, *22*(2), 702–733. [CrossRef]

Jia, K., Zhu, T., Zhang, W., Rasool, S. F., Asghar, A., & Chin, T. (2022). The Linkage between ethical leadership, well-being, work engagement, and innovative work behavior: The empirical evidence from the higher education sector of China. *International Journal of Environmental Research and Public Health*, *19*(9), 5414. [CrossRef]

Jia, X., Alvi, A. K., Nadeem, M. A., Akhtar, N., & Zaman, H. M. F. (2022). Impact of perceived influence, virtual interactivity on consumer purchase intentions through the path of brand image and brand expected value. *Frontiers in Psychology*, *13*(947916), 947916. [CrossRef] [PubMed]

Junaid, M., Hou, F., Hussain, K., & Kirmani, A. A. (2019). Brand love: The emotional bridge between experience and engagement, generation-M perspective. *Journal of Product and Brand Management*, *28*(2), 200–215. [CrossRef]

Juyumaya, J., & Torres, J. P. (2023). A managers' work engagement framework for the digital tasks. *Frontiers in Psychology*, *14*, 1009459. [CrossRef]

Khoo, K. L. (2022). A study of service quality, corporate image, customer satisfaction, revisit intention and word-of-mouth: Evidence from the KTV industry. *PSU Research Review*, *6*(2), 105–119. [CrossRef]

Kirk, R. E. (1996). Practical significance: A concept whose time has come. *Educational and Psychological Measurement*, *56*(5), 746–759. [CrossRef]

Kock, N. (2015). A note on how to conduct a factor-based PLS-SEM analysis. *International Journal of E-Collaboration*, *11*(3), 1–9. [CrossRef]

Koesworodjati, Y., Budiarti, R. H. S., & Suryana, P. (2024). Analysis of marketing capabilities, relational marketing, and company capabilities in affecting customer retention consumer financing products. *Quality—Access to Success*, *25*(199), 338–347. [CrossRef]

Krueger, R. A., & Casey, M. A. (2000). *Focus groups: A practical guide for applied research* (3rd ed.). SAGE Publications.

Larregui-Candelaria, G., Sosa-Varela, J. C., & Ortíz-Soto, M. (2019). Amor hacia la marca: Una perspectiva de relación continua. *Estudios Gerenciales*, *35*(152), 271–282. [CrossRef]

Larsson, A., & Broström, E. (2020). Ensuring customer retention: Insurers' perception of customer loyalty. In *Marketing intelligence and planning* (Vol. 38, Issue 2, pp. 151–166). Emerald Group Holdings Ltd. [CrossRef]

Laura-Arias, E., Villar-Guevara, M., & Millones-Liza, D. Y. (2024). Servant leadership, brand love, and work ethic: Important predictors of general health in workers in the education sector. *Frontiers in Psychology*, *15*, 1274965. [CrossRef] [PubMed]

Liu, C., Zhang, Y., & Zhang, J. (2020). The impact of self-congruity and virtual interactivity on online celebrity brand equity and fans' purchase intention. *Journal of Product and Brand Management*, *29*(6), 783–801. [CrossRef]

Liu, X., Huang, Y., Kim, J., & Na, S. (2023). How ethical leadership cultivates innovative work behaviors in employees? Psychological safety, work engagement and openness to experience. *Sustainability*, *15*(4), 3452. [CrossRef]

Liu, X., Zhang, L., & Chen, Q. (2022). The effects of tourism e-commerce live streaming features on consumer purchase intention: The mediating roles of flow experience and trust. *Frontiers in Psychology*, *13*, 995129. [CrossRef]

Macas, J., Rodriguez, A., & Luzuriaga, K. (2022). Estrategias de fidelización de clientes aplicadas a una institución financiera de la Ciudad de Machala. *593 Digital Publisher CEIT*, *7*, 60–81. [CrossRef]

Manyanga, W., Makanyeza, C., & Muranda, Z. (2022). The effect of customer experience, customer satisfaction and word of mouth intention on customer loyalty: The moderating role of consumer demographics. *Cogent Business and Management*, *9*(1), 2082015. [CrossRef]

Manzini, J. L. (2000). Declaración de helsinki: Principios éticos para la investigación médica sobre sujetos humanos. *Acta Bioethica*, *6*(2), 321–334. [CrossRef]

Mittal, S., Gupta, V., & Mottiani, M. (2022). Examining the linkages between employee brand love, affective commitment, positive word-of-mouth, and turnover intentions: A social identity theory perspective. *IIMB Management Review*, *34*(1), 7–17. [CrossRef]

Modroño, M. D. P. (2019). Aproximación teórica al constructo amor a la marca. *Dimensión Empresarial*, *17*(1), 138–158. [CrossRef]
Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, *58*(3), 20–38. [CrossRef]
Muflih, M., Zen, M., Purbayati, R., Kristianingsih, K., Karnawati, H., Iswanto, B., & Juniwati, E. H. (2024). Customer loyalty to Islamic mobile banking: Evaluating the roles of justice theory, religiosity, satisfaction and trust. *International Journal of Bank Marketing*, *42*(3), 571–595. [CrossRef]
Muftah, M. (2023). Impact of social media on learning English language during the COVID-19 pandemic. *PSU Research Review*, *8*, 211–226. [CrossRef]
Mukerjee, K. (2018). The impact of brand experience, service quality and perceived value on word of mouth of retail bank customers: Investigating the mediating effect of loyalty. *Journal of Financial Services Marketing*, *23*(1), 12–24. [CrossRef]
Mulyana, M., Hendar, H., Zulfa, M., & Ratnawati, A. (2020). Marketing innovativeness on marketing performance: Role of religio-centric relational marketing strategy. *Journal of Relationship Marketing*, *19*(1), 52–74. [CrossRef]
Nambisan, S., & Baron, R. A. (2007). Interactions in virtual customer environments: Implications for product support and customer relationship management. *Journal of Interactive Marketing*, *21*(2), 42–62. [CrossRef]
Ndubisi, N. O. (2007). Relationship marketing and customer loyalty. *Marketing Intelligence and Planning*, *25*(1), 98–106. [CrossRef]
Nguyen, N. H., & Hoang, D. P. (2024). Linking relationship marketing to customer loyalty in the e-banking context: The central role of customer satisfaction. *Gadjah Mada International Journal of Business*, *26*(1), 109–140. [CrossRef]
Obaze, Y., Xie, H., Prybutok, V. R., Randall, W., & Peak, D. A. (2023). Contextualization of relational connectedness construct in relationship marketing. *Journal of Nonprofit and Public Sector Marketing*, *35*(2), 111–143. [CrossRef]
Olivares, M. G., del Giudice, O. N., Arango, R. N., & Caruso, N. N. M. (2018). Hindering value facilitation and relational marketing practices. *Opcion*, *34*(18), 1691–1714.
Ooi, K. B., Lee, V. H., Hew, J. J., Leong, L. Y., Tan, G. W. H., & Lim, A. F. (2023). Social media influencers: An effective marketing approach? *Journal of Business Research*, *160*(113773), 113773. [CrossRef]
Otzen, T., & Manterola, C. (2017). Sampling techniques on a population study. *International Journal of Morphology*, *35*(1), 227–232. [CrossRef]
Panduro-Ramirez, J. A., Gallegos-Reyes, M. A., Villar-Guevara, M., García-Salirrosas, E. E., & Fernández-Mallma, I. (2024). The role of relationship marketing and brand love among banking consumers in an emerging market context. *Administrative Sciences*, *14*(12), 343. [CrossRef]
Pazos, P. (2012). Conflict management and effectiveness in virtual teams. *Team Performance Management*, *18*(7), 401–417. [CrossRef]
Perišić, M., Cerović, M., & Ivančić, I. (2022). The impact of relationship marketing on customer satisfaction and loyalty in Luxury hotels. *Ekonomska Misao i Praksa*, *31*(1), 189–210. [CrossRef]
Phua, J., Jin, S. V., & Kim, J. (2017). Gratifications of using Facebook, Twitter, Instagram, or Snapchat to follow brands: The moderating effect of social comparison, trust, tie strength, and network homophily on brand identification, brand engagement, brand commitment, and membership intention. *Telematics and Informatics*, *34*(1), 412–424. [CrossRef]
Pillai, R., Sivathanu, B., & Rana, N. P. (2025). Unveiling virtual interactive marketplaces: Shopping motivations in the Metaverse through the lens of uses and gratifications theory. *Journal of Business Research*, *190*, 115219. [CrossRef]
Puri, K. S., Suresh, K. R., Gogtay, N. J., & Thatte, U. M. (2009). Declaration of Helsinki, 2008: Implications for stakeholders in research. *Journal of Postgraduate Medicine*, *55*(2), 131–134. [CrossRef]
Quezado, T. C. C., Fortes, N., & Cavalcante, W. Q. F. (2022). The influence of corporate social responsibility and business ethics on brand fidelity: The importance of brand love and brand attitude. *Sustainability*, *14*, 2962. [CrossRef]
Rahman, M. K., Hoque, M. N., Yusuf, S. N. S., Bin Yusoff, M. N. H., & Begum, F. (2023). Do customers' perceptions of Islamic banking services predict satisfaction and word of mouth? Evidence from Islamic banks in Bangladesh. *PLoS ONE*, *18*, e0280108. [CrossRef]
Rasoolimanesh, S. M., Ringle, C. M., Jaafar, M., & Ramayah, T. (2017). Urban vs. rural destinations: Residents' perceptions, community participation and support for tourism development. *Tourism Management*, *60*, 147–158. [CrossRef]
Rizvanović, B., Zutshi, A., Grilo, A., & Nodehi, T. (2023). Linking the potentials of extended digital marketing impact and start-up growth: Developing a macro-dynamic framework of start-up growth drivers supported by digital marketing. *Technological Forecasting and Social Change*, *186*, 122128. [CrossRef]
Robertson, J., Botha, E., Ferreira, C., & Pitt, L. (2022). How deep is your love? The brand love-loyalty matrix in consumer-brand relationships. *Journal of Business Research*, *149*, 651–662. [CrossRef]
Rubalcava de León, C. A., Sánchez-Tovar, Y., & Sánchez-Limón, M. L. (2019). La conciencia de marca en redes sociales: Impacto en la comunicación boca a boca. *Estudios Gerenciales*, *35*(152), 313–320. [CrossRef]
Said, L. R., Puspasari, N., & Rusniati, R. (2022). The effect of mobile banking e-service on positive word-of-mouth marketing and customers: A case study of South Kalimantan Bank in Indonesia. *Economic Annals-XXI*, *198*(7–8), 4–17. [CrossRef]

Saleem, M. A., Yaseen, A., & Wasaya, A. (2018). Drivers of customer loyalty and word of mouth intentions: Moderating role of interactional justice. *Journal of Hospitality Marketing and Management*, *27*, 1469447. [CrossRef]

Sang, N. M. (2022). Corporate social responsibility, electronic word-of-mouth and customer loyalty in Vietnam's banking sector. *Banks and Bank Systems*, *17*(3), 38–48. [CrossRef]

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 1–47). Springer International Publishing. [CrossRef]

Sawhney, A., Pandey, A. K., & Sharma, P. (2024). Examining the role of bank performance on social media platforms: A SEM approach. *International Journal of System Assurance Engineering and Management*, 1–19. [CrossRef]

Septiano, R., Defit, S., & Limakrisna, N. (2024). Factors influencing customer satisfaction and their impact on customer loyalty. *International Journal of Artificial Intelegence Research*, *8*(1), 1–7.

Setiawan, H., & Sayuti, A. J. (2017). Effects of service quality, customer trust and corporate image on customer satisfaction and loyalty: An assessment of travel agencies customer in south Sumatra Indonesia. *IOSR Journal of Business and Management*, *19*(05), 31–40. [CrossRef]

Setyawati, S. M., Poespowidjojon, D. A. L., & Hayuningtias, K. A. (2018). Role of brand love and brand commitment in establishing word of mouth communication. *Indian Journal of Public Health Research and Development*, *9*(11), 1454–1459. [CrossRef]

Shen, X., & Wang, J. (2024). How short video marketing influences purchase intention in social commerce: The role of users' persona perception, shared values, and individual-level factors. *Humanities and Social Sciences Communications*, *11*(1), 290. [CrossRef]

Sinha, R. K. (2021). Subscription and casual customers' differential sensitivity to meteorological characteristics. *Journal of Retailing and Consumer Services*, *62*, 102663. [CrossRef]

Smith, A. K., Bolton, R. N., & Wagner, J. (1999). A model of customer satisfaction with service encounters involving failure and recovery. *Journal of Marketing Research*, *36*(3), 356–372. [CrossRef]

Smuts, A. (2009). What is interactivity? *Journal of Aesthetic Education*, *43*(4), 53–73. [CrossRef]

Sousa, N., Alén, E., Losada, N., & Melo, M. (2024). Influencing wine tourists' decision-making with VR: The impact of immersive experiences on their behavioural intentions. *Tourism Management Perspectives*, *51*, 101235. [CrossRef]

Steuer, J., Biocca, F., & Levy, M. R. (1995). Defining virtual reality: Dimensions determining telepresence. *Communication in the Age of Virtual Reality*, *33*(4), 37–39. [CrossRef]

Stone, M. (1974). Cross-validatory choice and assessment of statistical predictions. *Journal of the Royal Statistical Society. Series B (Methodological)*, *36*(2), 111–147. [CrossRef]

Suarniki, N. N., & Lukiyanto, K. (2020). The role of satisfaction as moderation to the effect of relational marketing and customer value on customer loyalty. *International Journal of Innovation, Creativity and Change*, *13*(4), 108–122.

Suyoto, Y. T., & Tannady, H. (2022). Ideal self-congruence: Its impacts on customer love and loyalty to luxury brands in Indonesia. *International Journal of Professional Business Review*, *7*(6), e0769. [CrossRef]

Torres, P., Augusto, M., & Neves, C. (2022). Value dimensions of gamification and their influence on brand loyalty and word-of-mouth: Relationships and combinations with satisfaction and brand love. *Psychology and Marketing*, *39*(1), 59–75. [CrossRef]

Trivedi, J. (2019). Examining the customer experience of using banking chatbots and its impact on brand love: The moderating role of perceived risk. *Journal of Internet Commerce*, *18*(1), 91–111. [CrossRef]

Turesky, E., Smith, C. D., & Turesky, T. K. (2020). A call to action for virtual team leaders: Practitioner perspectives on trust, conflict and the need for organizational support. *Organization Management Journal*, *17*, 185–206. [CrossRef]

Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, *23*(1), 3–43. [CrossRef]

Wang, H., Meng, Y., & Wang, W. (2013). The role of perceived interactivity in virtual communities: Building trust and increasing stickiness. *Connection Science*, *25*(1), 55–73. [CrossRef]

Wongsansukcharoen, J. (2022). Effect of community relationship management, relationship marketing orientation, customer engagement, and brand trust on brand loyalty: The case of a commercial bank in Thailand. *Journal of Retailing and Consumer Services*, *64*, 102826. [CrossRef]

Xiao, H., & Zeng, Y. (2024). Using Hunan industrial and commercial bank as a case study, this paper examines the factors that influence customer loyalty in mobile banking. *Environment and Social Psychology*, *9*(11), 1–16. [CrossRef]

Yan, J., Xia, S., Jiang, A., & Lin, Z. (2024). The effect of different types of virtual influencers on consumers' emotional attachment. *Journal of Business Research*, *177*, 114646. [CrossRef]

Ye, D., Xu, B., Wei, B., Zheng, L., & Wu, Y. J. (2024). Employee work engagement in the digital transformation of enterprises: A fuzzy-set qualitative comparative analysis. *Humanities and Social Sciences Communications*, *11*(1), 35. [CrossRef]

Zasuwa, G. (2024). Is there any excuse for wrongdoing? The moderating role of perceived reasons for bank irresponsibility in blame appraisal and WOM recommendations. *Social Responsibility Journal*, *20*(5), 845–860. [CrossRef]

Zegullaj, F., Zeqiri, J., Reshidi, N., & Abazi-Alili, H. (2023). The impact of customer relationship marketing on customer loyalty: Evidence from the banking sector. *International Journal of Customer Relationship Marketing and Management*, *14*(1), 1–17. [CrossRef]

Zhang, H., Lu, Y., Gupta, S., & Zhao, L. (2014). What motivates customers to participate in social commerce? the impact of technological environments and virtual customer experiences. *Information and Management*, *51*(8), 1017–1030. [CrossRef]

Zhang, M., Qin, F., Wang, G. A., & Luo, C. (2020). The impact of live video streaming on online purchase intention. *The Service Industries Journal*, *40*, 656–681. [CrossRef]