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Point-of-sale loyalty analysis considering store environment (online and offline) and recency of purchase

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Abstract

Purpose – First, to test our comparative model of online and offline purchase behavior; and second, to investigate whether recency moderates the model's relationships in different time periods. **Theoretical framework** – This study is framed by Garbarino and Johnson's (1999) theory of the roles of satisfaction, trust, and commitment. **Design/methodology/approach** – The sample consists of 768 purchases of products/services by Peruvian consumers. To test the hypotheses, we apply structural equation modeling based on covariance (SEM). **Findings** – The relationship between privacy/security of purchase and quality is stronger in an offline purchase than an online purchase, while the opposite is true for the relationship between quality and trust. Also, purchase recency moderates all relationships in our loyalty model. **Practical & social implications of research** – We focus this study on a Latin American country where recency of purchase is central to customer loyalty relationships. **Originality/value** – We provide a relevant perspective on point-of-sale loyalty in both offline and online environments, looking at the moderating role of recency of purchase (a variable that has been scarcely researched) in the context of a developing country such as Peru.

Keywords: Loyalty at the point of sale, online channel, offline channel, purchase behavior, recency of purchase.

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1 Introduction

In the early days of e-commerce, online stores competed with traditional stores, but technology and marketing strategies have impacted online shopping (Arce-Urriza & Cebollada, 2010). In addition, the use of mobile devices has transformed the shopping process and behavior, from a multichannel to an omnichannel consumer. For example, consumers used to look for lower prices by performing showrooming and webrooming shopping. Currently, the trend is boomerooming, caused by the COVID 19 pandemic (Palomino Pita et al., 2020), which complicates customer loyalty, and there are differences in behavior between online and offline shopping. There is some literature comparing online and offline purchase behavior in a loyalty model, such as that of Shankar et al. (2003), but dynamic consumer behavior is forcing firms to develop strategies to retain customers and attract consumers with new purchasing habits (NielsenIQ, 2022). There are also few studies on recency of purchase, which plays a very important role in customer loyalty, since its derivative effects (in general) tend to decrease as more time passes from the moment of purchase (Farías, 2019). We consider Peru as the setting for this study, where the growth of e-commerce took off during the COVID 19 pandemic. This type of research has mainly been conducted in developed countries, and needs more attention in Latin American countries. The findings of this research will guide Peruvian companies to redesign their strategies and implement mechanisms to build customer loyalty over time.

Following Bustamante (2015) and Martín Castejón et al. (2011), we designed a covariance-based loyalty model using SEM with the constructs: privacy/security, quality, trust, and loyalty (repeat purchase intention) at the point of sale. Thus, the objectives of the study are to investigate: 1) consumers' point-of-sale loyalty according to their online and offline shopping behavior; 2) the performance of the proposed model considering the moderating variable recency of purchase.

The main contributions of this study are: 1) to test a structural model of consumer loyalty by comparing behaviors in an online versus an offline purchase; 2) to investigate the influence of purchase recency on the model, a variable rarely addressed by academics; and 3) to contribute to the literature with a study referring to a developing country where e-commerce has taken off especially since 2020.

The structure of the paper consists of developing the theoretical framework after the introduction, followed by an explanation of the methodology and the main results of the data analysis, and concluding with the discussion and conclusions.

2 Theoretical framework

This work falls within the framework of the theory of the role of satisfaction, trust, and commitment in customer relationships, whose seminal work is credited to Garbarino and Johnson (1999). The value perception of a customer who makes online and/or offline purchases may vary with respect to the point of sale, with the following factors influencing their decision to choose a place of purchase: socio-demographic, psychographic, and behavioral. Also, recency of purchase can influence purchase behavior over time (Farías, 2019).

2.1 Conceptualization of research variables

2.1.1 *Loyalty*

Cognitive loyalty is based on beliefs about the brand, while affective loyalty occurs when satisfaction is processed (Oliver, 1999). Conative loyalty (behavioral intention) is a recurrent positive affection towards the brand, which implies a commitment (strong motivation) linked to intention to repurchase. Intention is part of the attitude (affective loyalty) and may not be realized, but it must be converted into action (action loyalty) to build customer loyalty. Thus, affective-action commitment would lead to repurchase by the consumer (Oliver, 1999). Therefore, Aldás Manzano et al. (2010) believe that it is necessary to use affective and conative loyalty to measure loyalty.

2.1.2 *Recency of purchase*

Recency of purchase refers to the time elapsed since a customer's last purchase at the time he or she is interviewed (Alet Vilaginés, 2020; Neslin et al., 2013). A customer will maintain the timeliness of a purchase if managers implement effective strategies to manage the "recent trap" (purchase recency dynamics) and allocate marketing resources effectively (Neslin et al., 2013). According to Alet Vilaginés (2020), this variable is used in RFM (recency, frequency, and monetary value) models, and adding the activation period variable (used to build purchase cohorts) moderates the RFMAP customer activation loyalty model, which is a priority for segmentation and marketing management in CRM (customer relationship management) systems.

Likewise, Handojo et al. (2023) propose the MLRFM (Multi Layer Recency, Frequency, and Monetary) approach as an extension of the RFM approach by adding several layers. Each time period is divided into multiple layers, segmented by customer purchase recency, and in each layer, each variable is analyzed; justified by the fact that old customers buy less or stopped buying. Peasley et al. (2021) apply the moderating variables primacy and timeliness and investigate how customer experience and (unfavorable) corporate social responsibility reputation affect the customer-firm relationship. In turn, Wu et al. (2018), in their study applied to the online ticketing market, propose a Bayesian method to quantify the short and long-term effectiveness of email marketing campaigns in relation to customer characteristics such as length of purchase history, recency of purchase, average ticket price and number, and number of purchases by gender, variables that affect the customer purchase rate. In this study, we found a strong positive interaction between the e-mail offer and purchase recency, with the offer serving as an effective catalyst to attract customers back. Therefore, purchase recency is gaining importance in marketing and management, as well as in other fields (Farías, 2019).

2.1.3 *Privacy/security*

Privacy is the guarantee that only authorized persons will have access to the necessary data, while security is the protection of information and is especially important in the online context (Cristóbal Fransi & Marimon Viadiu, 2011), since a high level of security must be provided in the use of information. For this purpose, the use of tools such as fingerprints, passwords, facial recognition, and others is essential (Medina Quintero et al., 2022). Thus, security/privacy is the security of credit card payments and the privacy of shared information. Therefore, the perceived risk should be reduced by protecting the user's personal information, providing transaction security, and improving the level of service (Yuwen et al., 2022).

2.1.4 *Service quality*

Conceptually, service quality and satisfaction are considered as attitudes (Van Birgelen et al., 2002), where perceived service quality is the difference between the service received by customers and their expectations. Similar to overall satisfaction (Angamarca Izquierdo et al., 2019), it is reflected in customers' agreement or disagreement. In the online environment and social context, the source of products must be guaranteed, product categories must be expanded, and improvements in the design and interactivity of the platform must be implemented (Yuwen et al., 2022). In addition, value for money, correct delivery, and detailed product/service information should be provided (San Martín & Camarero, 2010). Therefore, companies should focus on improving online service quality as it is the main key to long-term competitive advantage (Sharma, 2017).

2.1.5 *Trust*

Trust is vital in a future relationship because it is the confidentiality (reliability and integrity) between the parties (Morgan & Hunt, 1994). Two components define trust at the point of sale: 1) cognitive: this is a feeling of trustworthiness provided by the point of sale; 2) behavioral: this is the intention to continue trusting the point of sale. The risk of economic transactions is higher in the online environment than temporary transactions, so perceived trust (driven by factors such as e-commerce reputation and capability) is a priority for a trusting relationship between e-commerce and consumers (Yuwen et al., 2022).

2.2 Proposed model

In this section, we develop the model and the hypotheses of the study.

2.2.1 *Offline vs. online shopping behavior and recency*

Customer behavior in online shopping differs from traditional shopping behavior because of differences in brand, price, and other product/service attributes. Also, perceived quality is different in both channels and overall satisfaction is higher in the online shopping environment than offline (Shankar et al., 2003). Consumers of a fashion retailer prefer to shop offline (online) when their perceived affective commitment to the shopping situation is high (low) (Jebarajakirthy et al., 2021). Therefore, the following proposition is presented:

> P1. The purchase channel (offline vs. online) significantly moderates the relationships in the model explaining revisit intention at the point of sale (POS).

When considering recent purchases (versus older ones), in any product category, these provide fresher exposure to the information offered, as memory fades over time. Therefore, a customer of an older purchase loses information

about the reasons for that purchase (Farías, 2019), which reduces their behavioral perception. This leads us to the following proposition:

> P2. Recency of purchase (RP) significantly moderates the model relationships explaining revisit intention in the POS.

2.2.2 *Conceptual model*

Figure 1 shows the conceptual model analyzed in this study.

2.2.2.1 Privacy/security of purchase and service quality

Recent studies show the impact of privacy/security on service quality. For example, in ready-to-eat food outlets in sub-Saharan Africa, where the risk of disease transmission is high due to non-compliance with food safety standards, service performance and perceived safety must be ensured to achieve customer satisfaction (Shum & Ghosh, 2022; Parikh et al., 2022). Likewise, in the tourism sector, service quality directly and significantly depends on tourism security (Ruíz Ríos & Tello Reátegui, 2016); and in e-banking, improving reliability and privacy also impacts perceived service quality (Hernández Soriano & Cristóbal Fransi, 2016). Consequently, privacy/security of purchase increases the service quality of the POS.

> H1. Privacy/security of purchase positively influences POS service quality.

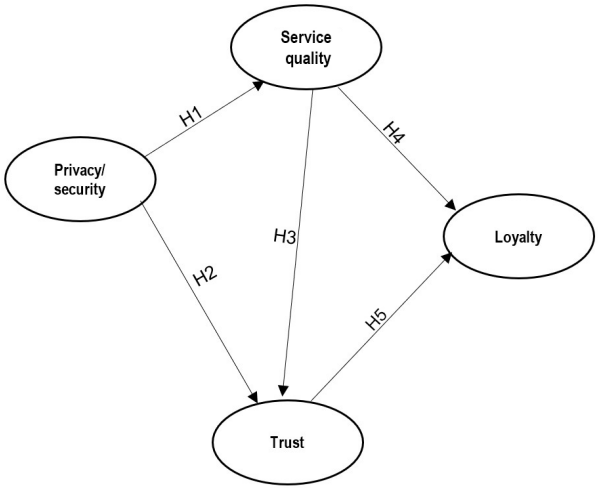

Figure 1. Conceptual model

2.2.2.2 Privacy/security of purchase and trust

Security is relevant because consumers perceive that online shopping involves higher risk, and to enhance online shopping, it is necessary to ensure transaction security and data privacy (security/privacy) in order to increase the trust of customers making online purchases (Miao et al., 2022). According to San Martín and Camarero (2010), security is the most important psychological factor in fostering trust in online shopping. Therefore, there is a positive relationship between privacy and the level of trust of consumers who make online purchases (Miao et al., 2022; Liu et al., 2005). Likewise, there is a positive effect of privacy and security on trust, which is greater in online purchases than offline (San Martín & Camarero, 2010).

> H2. Privacy/security of purchase positively influences trust in the POS.

2.2.2.3 Service quality and trust

The relationship between service quality and trust has been demonstrated in multiple fields of study. In the field of organic food, consumer trust in producers is achieved through perceived quality (Ladwein & Sánchez Romero, 2021), in agreement with Correia Loureiro and Miranda González (2010) in the health context, and with San Martín and Camarero (2010) in other fields. Specifically, website quality and information (Aslam et al., 2020) have a positive effect on trust in the company and the loyalty of consumers who make online purchases.

> H3. Service quality positively influences trust in the POS.

2.2.2.4 Service quality and loyalty

High service quality means a higher level of customer satisfaction, with a high tendency to remain loyal to the organization. Thus, service improvement influences customer loyalty (Giao & Vuong, 2021; Shafiee & Bazargan, 2018). In the online environment, for Aslam et al. (2020), website quality has a strong positive influence on customer loyalty. Therefore, service quality positively impacts customer loyalty (Giao & Vuong, 2021).

> H4. Service quality positively influences loyalty to the POS.

2.2.2.5 Trust and loyalty

Vargas Rocha et al. (2020) examine the relationship between trust/expectations or trust/recovery of services on brand loyalty. Their findings indicate that the influence is very weak for both relationships. However, in e-commerce and goods/services transaction systems, trust and reputation are essential to support the perceived transparency, credibility, reliability, and intrinsic quality of the information (García-Avilés et al., 2014). Likewise, in e-banking, loyalty plays a fundamental role, resulting from the influence of trust and information quality (Medina Quintero et al., 2022), as well as in the online sale of airline tickets (Aldás Manzano et al., 2010). In the traditional context, oriented and ethical sales increase the level of customer satisfaction and trust, leading to loyalty (Martín Castejón et al., 2011). Consequently, trust has a positive effect on customer repurchase intention.

H5. Trust positively influences loyalty to the POS.

3 Methodology

This research has a non-experimental, exploratory, descriptive, correlational, explanatory, and cross-sectional design. The study refers to the last purchase made by the consumer and focuses on the channel (offline or online) in which the purchase was made, even if the decision was made and the search was initiated in a channel other than the one in which the purchase was made. This does not exclude omnichannel consumers, consumers who use webrooming, or those with a tendency for boomerooming (online search, offline visit, online purchase) or offline search, online visit, offline purchase. To complete the questionnaires, personal interviews were conducted with consumers who made purchases in physical stores. The questionnaire was promoted online (Facebook, email, Instagram) for participants who made online purchases, who had to refer to their last purchase; accordingly we classified the form of purchase as online or offline. For the variable recency of purchase, they were asked the category and the number of days elapsed from the purchase to the moment of the interview (see Appendix A - Measurement scale).

The information was collected in early 2019 and we applied non-random sampling to consumers in Peru (in La Libertad and Lima), through face-to-face interviews and online questionnaires. The samples of consumers who made offline and online purchases are 614 and 154 (Appendix B shows socio-demographic characteristics), respectively, considering four categories of products/services (Supplementary Data 1). The categories "IT" (including electronic products) and "travel" (including transportation tickets) are of high involvement in the Peruvian context, according to Becerra (2020) and ComexPerú (2022), respectively. These categories have the highest frecuencies, with 491 and 165, respectively, followed by the categories "household appliances" and "clothing" with a frequency of 56 each (see Appendix C), which are purchase categories that are generally spaced out in time. Therefore, the response in different periods would not be biased according to the product category, since the purchases analyzed were of products with high or medium involvement and low purchase frequency.

Thus, we investigated the relationship between the constructs of privacy/security of purchase (PSPOS), service quality (SQPOS), trust (TPOS), and loyalty (repeat purchase intention - RPIPOS) considered in our conceptual model and measured by the perception of the POS. For this purpose, we worked with the covariance-based SEM methodology, which uses causal models and covariance analysis using maximum likelihood estimation.

SPSS AMOS version 27 software was used to analyze the full model. We also ran two multigroup analyses: 1) using the environment (ET) as a moderating variable of the relationships in our model, analyzing the differences of the model tested for online vs. offline purchases; 2) testing whether RP influences the results of the relationships studied. We used the 33.3% and 66.7% percentiles to classify the information into three periods: PER1, PER2, and PER3 (from the most recent to the furthest time since the customer made the purchase, eliminating eight outliers, considered as greater than 365 days, so as not to bias the results of PER3), with observations less than or equal to 19 days, greater than 19 and less than or equal to 59 days, and greater than 59 days, with 246, 260, and 254 respondents, respectively (Table 1).

Finally, we compared the differences between similar pairs (a pair refers to two correlated constructs of the structural model, with each pair assigned a number according to the sample) to determine if there were significant differences between the relationships in the multigroup analyses considering first ET and then RP.

4 Results

4.1 Measurement model

The covariances between the constructs of the model vary between 0.45 and 0.56, and the loadings of the items vary between 0.70 and 0.88, with the exception of one loading value of 0.69, which is close to the acceptable limit, since 0.7 is the minimum recommended value (Chin, 1998), although at the beginning of scale development less than 0.7 can be accepted. The SQPOS and TPOS constructs consist of four items each, PSPOS of three items, and RPIPOS of two items, confirming convergent validity.

The goodness of fit indices for the online/offline shopping sample are: PCMIN/DF = 4.556; GFI = 0.950; AGFI = 0.922; CFI = 0.966, over 0.9; and RMSEA = 0.068, close to 0.06 (Hu & Bentler, 1999).

Nunnally and Bernstein (1994) consider Cronbach's alpha as a measure of internal consistency with a minimum value of 0.70, which was met in all scenarios (Table 2), thus confirming the validity of the scale.

For discriminant validity (Table 2), the constructs in our model have an AVE ≥ 0.536, except for the value of 0.497, which is close to the acceptable limit. Table 2 also shows a composite reliability (CR) ≥ 0.60, the minimum acceptable (Fornell & Larcker, 1981); and the correlation matrix and the square root of the AVE on the main diagonal.

Table 1
Recency of purchase

Purchase	Recency of purchase (RP)			Total
	PER1	PER2	PER3	
Offline	220	202	187	609
Online	26	58	67	151
Total	246	260	254	760

Table 2
Scale reliability, discriminant validity, and composite reliability

Offline/online sample - 768 observations								
	Fα	**α**	**CR**	**AVE**	**PSPOS**	**SQPOS**	**TPOS**	**RPIPOS**
PSPOS	0.93	0.83	0.864	0.680	*0.825*			
SQPOS		0.82	0.825	0.542	0.796	*0.736*		
TPOS		0.90	0.899	0.691	0.714	0.803	*0.831*	
RPIPOS		0.83	0.828	0.707	0.608	0.792	0.637	*0.841*
Recency of purchase sample - 760 observations								
	Fα	**α**	**CR**	**AVE**	**PSPOS**	**SQPOS**	**TPOS**	**RPIPOS**
PSPOS	0.93	0.83	0.809	0.588	*0.767*			
SQPOS		0.82	0.821	0.536	0.797	*0.732*		
TPOS		0.90	0.881	0.642	0.715	0.803	*0.801*	
RPIPOS		0.83	0.810	0.681	0.608	0.790	0.637	*0.825*
Offline sample - 614 observations								
	Fα	**α**	**CR**	**AVE**	**PSPOS**	**SQPOS**	**TPOS**	**RPIPOS**
PSPOS	0.93	0.83	0.861	0.673	*0.820*			
SQPOS		0.82	0.829	0.549	0.828	*0.741*		
TPOS		0.90	0.904	0.703	0.756	0.816	*0.838*	
RPIPOS		0.84	0.840	0.725	0.595	0.803	0.635	*0.851*
Online sample - 154 observations								
	Fα	**α**	**CR**	**AVE**	**PSPOS**	**SQPOS**	**TPOS**	**RPIPOS**
PSPOS	0.91	0.83	0.866	0.685	*0.828*			
SQPOS		0.80	0.797	0.497	0.642	*0.705*		
TPOS		0.87	0.871	0.630	0.506	0.776	*0.794*	
RPIPOS		0.77	0.775	0.633	0.612	0.716	0.610	*0.796*

Notes: Fα = overall reliability (considering 13 indicators); α = Cronbach's alpha; CR = composite reliability. Fornell-Larcker criterion (under the main diagonal). The main diagonal: in italics, square root of the AVE.

4.2 Structural model and multigroup analysis

For the offline/online shopping sample, the goodness of fit indices are: PCMIN/DF = 4.495, varying between 2 and 5; GFI = 0.950; AGFI = 0.923; CFI = 0.966; and RMSEA = 0.068. Therefore, we validated the structural model. Figure 2 shows the results for the offline and online shopping samples (in that order), and their respective explained variances (R^2) vary between 0.47 and 0.69, and in the standardized loadings for the explanatory variables, 11 of the 13 items considered are greater than or equal to 0.7, and the minimum value is 0.64, confirming convergent validity; the latent variables are similarly measured by their indicators.

Regarding the multigroup analysis considering ET, the result of the correlations and covariances between the respective pairs is zero (0), and the same occurs when analyzing with RP. Figure 3 presents the structural model using RP (model segmentation variable) with results for samples PER1, PER2, and PER3, in that order. Table 3 shows that all hypotheses except H5 are supported. Looking at Table 4, according to the multigroup analysis using RP, for a confidence level of 95% and critical values of ±1.96, significance is met for all relationships: PSPOS→SQPOS, PSPOS→TPOS, SQPOS→TPOS, SQPOS→RPIPOS and TPOS→RPIPOS; for example for PSPOS→SQPOS, the correlations of PER1 and PER2 are 0.88 and 0.74, respectively, and the difference between the respective pairs P_11 and P_26 (comparing PER1 and PER2, where P_11 is the respective pair for the first period and P_26 for the second period, and corresponds to SQPOS←PSPOS) is -2.866, less than -1.96; similarly, the other relationships are compared and analyzed.

Table 3 also shows the results of the multigroup ET analysis, where the differences between the correlations between the constructs for the offline and online shopping samples of H1, H2, and H3 are statistically significant at the 95% confidence level and critical values of ±1.96. For H1, P_11 and P_26 are analyzed, for H2, P_13 and P_28 are contrasted, and for H3, P_14 and P_29 are compared. We cannot conclude that there is a clear difference in behavior between online and offline shopping, so we only partially validate P1.

Finally, in the multigroup analysis considering RP (Table 4), the intensity of PSPOS→SQPOS, PSPOS→TPOS, and SQPOS→TPOS, as well as SQPOS→RPIPOS and TPOS→RPIPOS, vary over time since purchase. Consequently, there are significant differences in consumer behavior and we validate P2.

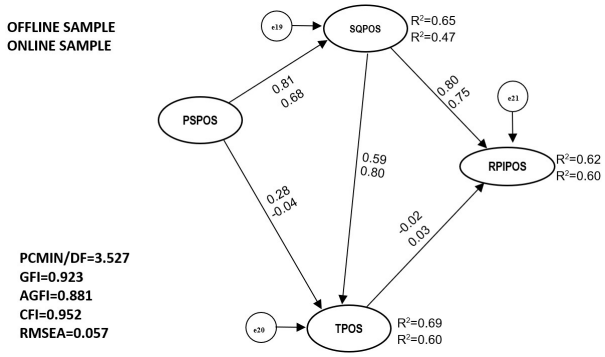

Figure 2. AMOS structural model using the ET variable (multigroup offline vs. online)

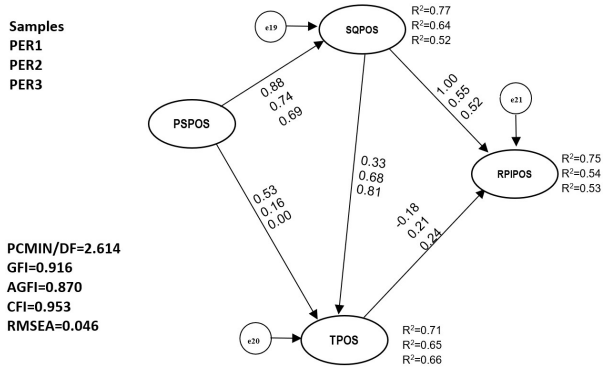

Figure 3. AMOS structural model using RP (multigroup recency)

Table 3
Results of multigroup analysis using ET

Hypothesis	Relationships	Paths(1)	Par(2)	Paths(2)	Par(3)	Paths(3)	DP	Results of multigroup analysis	Hypothesis result
H1	PSPOS→ SQPOS	0.79	P_11	0.81	P_26	0.68	-2.557*	s.	Accepted
H2	PSPOS→ TPOS	0.21	P_13	0.28	P_28	-0.04	-2.941*	s.	Accepted
H3	SQPOS→ TPOS	0.63	P_14	0.59	P_29	0.80	2.128*	s.	Accepted
H4	SQPOS→ RPIPOS	0.77	P_10	0.80	P_25	0.75	-0.773*	n.s.	Accepted
H5	TPOS→ RPIPOS	0.02	P_12	-0.02	P_27	0.03	0.330*	n.s.	Rejected

Notes: (1)Sample results - 768 observations; (2)Offline sample results - 614 observations; (3)Online sample results - 154 observations; *$p \leq 0.05$. DP = critical ratios for differences between parameters; n.s. = not significant; s. = significant.

Table 4
Results of multigroup analysis using RP

Relationships	Par/ paths [1]	DP[1]	Par/ paths [2]	DP[2]	Par/ paths [3]	DP[3]	Par/ paths [1]	Results of multigroup analysis
PSPOS→ SQPOS	P_11	-2.866*	P_26	-0.284*	P_41	-2.848*	P_11	s.
	0.88	s.	0.74	n.s.	0.69	s.	0.88	
PSPOS→ TPOS	P_13	-2.426*	P_28	-1.475*	P_43	-3.640*	P_13	s.
	0.53	s.	0.16	n.s.	0.00	s.	0.53	
SQPOS→ TPOS	P_14	2.676*	P_29	0.003*	P_44	2.730*	P_14	s.
	0.33	s.	0.68	n.s	0.81	s.	0.33	
SQPOS→ RPIPOS	P_10	-2.695*	P_25	0.096*	P_40	-2.411*	P_10	s.
	1.00	s.	0.55	n.s.	0.52	s.	1.00	
TPOS→ RPIPOS	P_12	2.500*	P_27	0.465*	P_42	2.564*	P_12	s.
	-0.18	s.	0.21	n.s.	0.24	s.	-0.18	

Notes: [1]Results of sample PER1 - 246 observations; [2]Results of sample PER2 - 260 observations; [3]Results of sample PER3 - 254 observations; *$p \leq 0.05$. DP = critical ratios for differences between parameters; n.s. = not significant; s. = significant.

5 Discussion and conclusions

We study a structural model and analyze variables at the point of sale and the influence of the moderating variables environment (online vs. offline) and recency of purchase on the relationships of our loyalty model (measured by repurchase). Factors such as trust and quality are treated as direct antecedents of loyalty, all in the context of a developing country, where this topic is largely under-researched. According to our findings, privacy/security positively influences service quality, in line with Ruíz Ríos and Tello Reátegui (2016) in the offline channel and with Hernández Soriano and Cristóbal Fransi (2016) in the online environment. Moreover, this relationship is stronger in the offline channel than in the online channel. Customers prioritize the security provided by the store when making a purchase or acquiring a service, perceiving the minimization of physical theft and/or phishing. Also, the guarantee of protection of their data and that these will not be shared would lead to: 1) consumers making purchases offline would first perceive that the design and ambience of the store is very appropriate, and then that the store meets the agreed conditions of quality and punctuality of delivery; 2) consumers making purchases online would first perceive that the store offers products/services with very good value for money, and then that the information is comprehensive and well structured, and also that the conditions of quality and delivery times are met.

Privacy/security positively influences trust, in agreement with Miao et al. (2022) and Liu et al. (2005), and in our findings the impact is weak. Moreover, the influence of privacy/security is only shown in the offline channel and in the same way. There is no relationship between the two variables in the online channel, which contradicts San Martín and Camarero (2010). The guarantee offered by the store regarding the privacy of the customer's information and that it will not be shared, as well as the security provided by the store when purchasing a product/service, would impact the customer's perception that the store would honor its commitments to him/her, considering it honest. On the other hand, in the online channel, the fact that the store guarantees the protection of the customer's data and that it will not be shared with other people, companies, or web links is not enough reason for the customer to perceive that the store would honor its commitments to him/her and that it is honest.

Likewise, service quality has a positive impact on customer trust in the point of sale, in line with Ladwein and Sánchez Romero (2021), San Martín and Camarero (2010), and Correia Loureiro and Miranda González (2010) in the offline environment, and with Aslam et al. (2020) in the online environment. However, the intensity of the relationship is greater in the online sales channel than in the offline channel. Thus, for the customer to trust the store (which would fulfill its agreed commitments due to its honesty and transparency), the following factors would be decisive: 1) in the offline channel: a) that the store offers products/services with an acceptable quality/price ratio; b) that the customer appreciates that the design is attractive and the equipment is adequate; c) that the store meets the conditions of quality and punctuality of delivery; 2) in the online channel: (a) that the customer perceives the store as having a very attractive design (structure, ease of use, and interactivity) and adequate

technology; (b) that the firm offers products/services with a good quality/price ratio; (c) with less intensity, that the buyer finds sufficient and detailed information.

Service quality strongly and positively influences customer loyalty. Thus, we agree with Giao and Vuong (2021) and Shafiee and Bazargan (2018) regarding the offline channel. Although in the online context Aslam et al. (2020) claim that website quality positively and strongly influences service consumer loyalty because of the ease of obtaining information (Shankar et al., 2003), our findings indicate that the relationship is similar and strong in both channels. We disagree with Shankar et al. (2003), who state that this relationship is stronger in the online channel than in the offline channel. We justify this statement by considering that, regardless of the purchase channel, consumers would make the decision to return to the store to make a purchase, whether or not they had previously visited the competition, because of the ease of obtaining and understanding the information, which is comprehensive and accurate; and secondly, because of the excellent quality/price ratio of the products/services offered.

In both contexts, trust does not influence loyalty at the point of sale, disagreeing with Martín Castejón et al. (2011) and Medina Quintero et al. (2022), who state that trust positively influences the loyalty of consumers who make offline purchases, similar in the online environment (Aldás Manzano et al., 2010). Factors such as the store being transparent, honest, and fulfilling its commitments are not very important for the customer to feel motivated and interested in purchasing a product/service again.

Therefore, the behavior in an offline purchase is slightly different from in an online purchase at the point of sale, because the environment only moderates the relationships: privacy/security over quality, privacy/security over trust, and quality over loyalty.

Finally, recency of purchase moderates the intensity of all relationships: privacy/security over service quality, privacy/security over trust, and service quality over trust. Similarly, it also moderates service quality and trust over loyalty at the point of sale. The most relevant factors for purchase recency that moderate the impact of privacy/security on service quality (e.g., the customer perceives the price/quality ratio of the products/services offered to be very good and is pleased with the store design) are that the store provides security for the purchase, followed by the guarantee that the information will not be shared with third parties through any communication channel, and the relationship between privacy/security and quality is very strong in the most recent period, decreasing imperceptibly over time. On the other hand, the effect of privacy/security on trust is moderate in the period closest to the purchase. The decisive factors for the customer to perceive that the store would honor its commitments to him/her because of its truthfulness and transparency is precisely because the store guarantees that his/her information will not be shared, and because it provides security when making a purchase. However, these two factors would not be enough to generate an impact on trust over time.

Regarding the relationship between service quality and trust, the influence of service quality on the consumer's perception that the store is truthful/transparent (as well as honest) lasts over time, ranging from moderate to intense. Specifically, in the first period, what would influence trust are the good design, structure, and ambience of the store (as well as the timeliness of delivery). This factor influences with the same intensity in the following periods. However, the customer already perceives that the store offers products/services with an excellent quality/price ratio (second factor), an effect that could have been generated by his/her personal appreciation or by interaction with his/her environment. On the other hand, in the last period, the second factor has a strong impact on the perception of truthfulness/transparency of the store. If we add the moderating effect produced by the customer's perception of abundance, structure, and accuracy of information on the products/services offered by the firm (first factor), a strong impact on trust is generated, where the WOM/eWOM effect could have been added.

However, with respect to the relationship between service quality and loyalty, the intense (in the first period) to moderate (in the remaining periods) impact of service quality on the customer's decision to return to the store to repurchase would be produced whether or not he/she consults prices, brands, or other attributes of the product/service required in the competition. This is because the customer perceives: 1) that the store provides ample and well-structured information about the products/services sold, which facilitates his/her search; 2) that the products/services are sold at a good quality/price ratio, which makes his/her purchase viable.

Finally, regarding the relationship between trust and loyalty, the influence of trust on the customer's decision to return to the store to make a purchase is not evident in the first period or in the remaining periods.

This is due to the fact that it is not enough for the customer to perceive the store's honesty and the fulfillment of its commitments. However, these factors would have a weak influence in the next period if the customer is aware that the store would respond quickly to his/her requests for help and effectively solve his/her problems. On the other hand, in the last period, if the customer is convinced that the firm is truthful/transparent and would always honor its commitments, the effect of trust on loyalty is similar to the previous period. Moreover, the result of the weak influence of trust on loyalty in periods PER2 and PER3 is in line with the research results of Vargas Rocha et al. (2020) in their study on trust/expectations or trust/recovery of services on brand loyalty. Consequently, consumer purchase behavior is different depending on the time since the last purchase.

5.1 Implications for management

Entrepreneurs must analyze different scenarios over time and effectively manage the "recent trap" (dynamics of the recency of purchase) and various marketing strategies to maintain the customer's attention, such as offers, promotions, and innovation in the service and design of the store. Customers value the layout, design, and equipment of the offline store, and in the online environment, customers value the web design, ease of use, usability, and well-structured and updated information on the website and/or social networks (prices and other product/service attributes). Sellers must present a user-friendly and interactive platform by hiring a good web designer and image/video editor, and respond to customer inquiries/claims while minimizing waiting times. Likewise, online sellers must develop a strategy so that potential buyers visit the website frequently, even if they do not buy with the same frequency.

High perceived risk generates mistrust, and customers often do not return to buy. To avoid this, managers should: 1) minimize this risk by providing truthful and accurate information about prices, product/service quality, and other attributes in their emails or in different media; 2) implement clear privacy policies, according to the territorial space, and publish them in their different platforms; 3) establish technical mechanisms (such as authentication and confidentiality) of security in transactions or means of payment, an important factor in e-commerce, and make the rules of personal data protection transparent in their website.

Loyal customers leave price in the background and now participate in e-word of mouth (eWOM), which influences consumer decisions (Sharma, 2017). Thus, to build customer loyalty using social networks, managers must design a satisfactory experience with accurate information to build trust, publishing valuable content at appropriate times, running promotions on special dates, minimizing the user's time on the Internet, performing customer segmentation and retargeting (with remarketing lists), and offering low-cost product shipments.

In short, companies must improve the customer shopping experience and offer promotions, enhancing e-commerce (Torrado, 2019). They should make offline and online offers, but above all unify both promotional campaigns, because the current trend is towards integrating the channels of interaction with the customer (offline and online). They should generate a valuable assortment for the customer, make valuable offers, and improve the overall image of the establishment. One way is to enhance the eWOM and WOM effect, since many consumers seek a product/service in one context and finally make their purchase in another context. The implementation of these strategies would lead to an increase in loyal and potential consumers and consequently increase sales in the future.

5.2 Limitations and future directions

The information was collected in person and online in Peru, using a non-random sampling method due to budget and time constraints. Also, the research is cross-sectional. Therefore, it is recommended that this study be replicated in the future in other Latin American countries, using a random sample and conducting a longitudinal study.

The information gathered was from before the pandemic considering products/services of high and medium involvement and with a low purchase frequency, so we recommend conducting a study with information obtained in post COVID 19 times, and comparing the behavior of consumers in online and offline purchases, applied to the type of products mentioned, or products of low involvement or with a high purchase frequency, after this event that has changed so many purchase behaviors.

New means of payment have also emerged in Peru, such as the creation of various bank apps (electronic wallets), such as the PLIN platform. This works with BBVA, Interbank, Scotiabank, or BanBif, facilitating

interbank transactions, using a phone number or QR code at no additional cost, and is generally used by young consumers, increasing sales in large, medium, and small stores, which may lead to changes in the proposed model. Therefore, it is suggested that future research uses cohorts segmented by age, income, gender, and place of residence, as well as by level of studies and occupation. We also recommend working with the MLRFM (Multi Layer Recency, Frequency, and Monetary) approach, applying recency of purchase, and in each layer (period) analyzing each sociodemographic and/or socioeconomic variable, justified by the fact that old customers buy less or stopped buying (Handojo et al., 2023).

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Supplementary Material

Supplementary material accompanies this paper.
Supplementary Data 1. Database.
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APPENDIX A - Measurement scale

Table A1
Measurement scale

Variable			Measuring element	Measuring scale
ET	Environment		*Offline* shopping environment	1. *Offline*
			Online shopping environment	2. *Online*
RP	Recency of purchase		The specific product purchased or service purchased is _____.	4 Categories
			The last time I purchased from this store was approximately _____ days ago.	Numerical type
TPOS	Trust at the point of sale	TPOS1	If I need help, this store will do its best to help me.	5-item Likert scale:
		TPOS2	This store is truthful and transparent in its dealings with me.	1. Strongly disagree
		TPOS3	I would characterize this store as honest.	2. Disagree
		TPOS4	This store would keep its commitments to me.	3. Neither agree nor disagree
SQPOS	Point-of-sale service quality	SQPOS1	I like the design, ambiance and equipment of the store.	4. Agree
		SQPOS2	This store provides extensive and detailed information about the services they offer.	5. Totally agree
		SQPOS3	This store offers products/services with a good quality-price ratio.	
		SQPOS4	This store meets the promised conditions of quality and delivery times.	
PSPOS	Privacy/security of purchase at the point of sale	PSPOS1	The store guarantees that the customer's personal information will not be shared with other people, companies or *web links.*	
		PSPOS2	The store provides security to customers when making a purchase or acquiring a service.	
		PSPOS3	The store guarantees that it will not provide the credit (or debit) card number to third parties.	
RPIPOS	Repeat point-of-sale intent	RPIPOS1	I will be purchasing more and more products/services from this store.	
		RPIPOS2	My intention is to continue visiting this store instead of another alternative.	
	Socio-demographic characteristics		Sex	1. Female
				2. Male
			Age	Numerical type
			Education	1. Primary
				2. High School
				3. Technical Institute
				4. University
				5. Uneducated
			Employment status	1. Student
				2. Out of work
				3. Self-employed
				4. Dependent worker
				5. Pensioner
				6. Housewife

APPENDIX B - Sociodemographic characteristics – offline/online sample – 768 observations

Table A2
Frequencies of ET vs. sociodemographic characteristics

		Offline	Online	Frequency	Percentage (%)
Sex	Female	325	72	397	51.7
	Male	289	82	371	48.3
Age (years)	Age ≤ 20	180	57	237	30.9
	20 < age ≤ 26	206	56	262	34.1
	Age > 26	228	41	269	35.0
Education	Primary	3	0	3	0.4
	Secondary	66	2	68	8.9
	Technical/Baccalaureate	131	4	135	17.6
	University	414	148	562	73.2
	No studies	0	0	0	0
Employment status	Student	276	86	362	47.1
	Unemployed	23	2	25	3.3
	Self-employed	107	13	120	15.6
	Salaried employee	208	53	261	34.0
	Pensioner	0	0	0	0
	Housewife	0	0	0	0
Total		**614**	**154**		

Note: Age was segmented according to the 33.3% and 66.7% percentiles.

APPENDIX C - Product/service categories

Table A3
Product/service categories

Category	Frequency	Percentage
Clothing	56	7.29
IT	491	63.93
Electrical	56	7.29
Travel	165	21.48
Total	768	100.0

Note: IT includes electronic products.

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RBGN performs plagiarism analysis on all its articles at the time of submission and after approval of the manuscript using the iThenticate tool.

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2nd author: Definition of research problem; development of theoretical propositions (theoretical work); definition of methodological procedures; data collection; statistical analysis; analysis and interpretation of data; critical revision of the manuscript; manuscript writing.
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