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The Role of Loyalty Programs and Perceived Value in Banking Customer: The Moderation Effect of Security and Gender

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A R T I C L E I N F O

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A B S T R A C T

This study aims to develop a model to represent how LPs (loyalty programs) -policy, rewards, and usefulness of information- influence perceived value and loyalty in banking services, considering the moderating effect of perceived security and gender. Data were collected from 388 customers of two banks offering LPs in Indonesia and analyzed with partial least squares-structural equation modeling and multi-group analysis. The study validates the impact of policy and rewards on perceived value and loyalty and expands previous studies by identifying the role of security and gender. Perceived security moderates the influence of the usefulness of information on perceived value. Additionally, the study identifies significant differences in the effect of LPs by gender: the impact of policy on perceived value and loyalty is higher amongst males; rewards are a determinant of perceived value for males but of loyalty for females; and the effect of information usefulness on loyalty occurs only amongst males.

A B S T R A K

Studi ini bertujuan untuk mengembangkan model yang mewakili bagaimana program loyalitas yang terdiri dari kebijakan, penghargaan, dan kegunaan informasi-mempengaruhi nilai dan loyalitas dalam layanan perbankan, dengan mempertimbangkan efek moderasi dari keamanan dan gender. Data dikumpulkan dari 388 nasabah di dua bank yang menawarkan program loyalitas di Indonesia dan dianalisis dengan model persamaan struktural dan analisis multi-grup. Studi ini memvalidasi dampak kebijakan dan penghargaan terhadap persepsi nilai dan loyalitas serta memperluas studi sebelumnya dengan mengidentifikasi peran keamanan dan gender. Keamanan yang dirasakan memoderasi pengaruh kegunaan informasi terhadap nilai yang dirasakan. Selain itu, penelitian ini mengidentifikasi perbedaan signifikan dalam pengaruh program loyalitas berdasarkan gender: dampak kebijakan terhadap persepsi nilai dan loyalitas lebih tinggi di kalangan laki-laki; penghargaan merupakan penentu nilai yang dirasakan bagi laki-laki, namun loyalitas bagi perempuan; dan pengaruh kegunaan informasi terhadap loyalitas hanya terjadi pada laki-laki.

1. INTRODUCTION

Despite the widespread adoption of loyalty programs (LPs) in Indonesian banking, empirical evidence regarding how and under what conditions these programs effectively enhance customer perceived value and loyalty remains fragmented and inconclusive. Existing studies predominantly emphasize the direct benefits of LPs, such as rewards and transactional incentives (Mimouni-Chaabane & Parguel, 2025; Timmis et al., 2025), while overlooking situational and customer-specific factors that may critically shape their effectiveness(Bellaali, 2024). Prior research demonstrates that LPs can generate positive outcomes, including restoring trust, reducing customer ambivalence, enhancing perceived value, and strengthening loyalty (Corbishley et al., 2023; Utz et al., 2023), as well as improving firm performance (Hua et al., 2018) and reward pursuit motivation (Yang et al., 2021). However, other studies highlight adverse consequences, such as negative cus-

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tomer reactions following program termination (Melnyk & Bijmolt, 2015), perceptions of unfairness (Steinhoff & Palmatier, 2016), and the limited role of monetary rewards compared to social and exploration benefits in driving loyalty (Fourie et al., 2023). Moreover, revenue managers often misinterpret loyalty by conflating transactional, attitudinal, and true loyalty, leading to ineffectivse LP designs (Lentz et al., 2022). These mixed findings indicate that LP effectiveness is context-dependent rather than universal, reinforcing the need for a more integrative explanatory framework (Belli et al., 2022; Kim et al., 2021).

More importantly, although security is a fundamental concern in banking services, particularly in digital and transaction-based environments (Baik & Famularo, 2024), its role in conditioning the effectiveness of banking LPs has received limited empirical attention. Prior LP research recognizes uncertainty avoidance and perceived risk as relevant contextual factors, yet fails to explicitly conceptualize perceived security as a moderating mechanism that shapes how LP attributes translate into customer value (Chen et al., 2021). This omission is critical, given that banking LPs are increasingly embedded in electronic banking platforms where customers' willingness to engage is closely tied to perceptions of transaction safety and data protection (Nigatu et al., 2023) . Security perceptions reflect customers' assessment of risk exposure and the extent to which personal and financial information can be safely managed within banking systems (Xie et al., 2017), suggesting that LP effectiveness cannot be fully understood without accounting for this factor.

Similarly, gender differences in banking LP effectiveness remain underexplored, despite extensive evidence that male and female customers differ in service evaluations, technology adoption, and loyalty formation. While previous studies have confirmed the moderating role of gender in banking contexts—such as personnel capability and customer satisfaction (Darzi & Bhat, 2018), personal values underlying loyalty (Henrique & De Matos, 2015), and the adoption of internet banking driven by social norms, ease of use, and perceived advantage (Riquelme & Rios, 2010)—the moderating effects of gender on the relationships between LP attributes, perceived value, and loyalty have not been adequately examined. This gap is particularly evident in the banking industry, where gender-based moderation remains largely unexplored (Teeroovengadum, 2022).

Accordingly, the research problem addressed in this study is the absence of an integrative empirical model that explains how specific banking LP attributes—policy, rewards, and information usefulness—influence customer perceived value and loyalty, and how these relationships are contingent upon perceived security and gender differences. Addressing this problem is essential to reconcile inconsistent findings in prior LP research (Chen et al., 2021; J. J. Kim et al., 2021) and to provide banking practitioners with theoretically grounded and context-sensitive insights for designing more effective loyalty programs. Therefore, this study examines how banking LPs can increase customers' perceived value and loyalty. Banking LPs include policy, rewards, and information usefulness (Omar & Musa, 2011). The policy shows the extent to which these programs provide convenience, speed, and sufficient time to redeem points. Rewards concern their quality and compliance with customer needs. The usefulness of information shows whether the programs inform and remind customers about earning points. This study also examines the situational factors surrounding LPs (perceived security and gender), which help to increase their effectiveness.

The study has both academic and practical implications. It significantly contributes to the literature relating LPs, perceived value, and loyalty, emphasizing bank marketing. It also suggests a moderated mechanism for enhancing customer loyalty related to saving accounts, incorporating security and gender as moderators. Therefore, the study enables a better understanding of LPs in the banking context and contributes to the literature on customer behavior and bank marketing. Practically, the study makes several recommendations for bank management to enhance LPs to increase customer perceived value and loyalty. In addition, the research recommends how to manage banking customer loyalty differently based on perceived security and gender.

2. THEORETICAL FRAMEWORK AND HYPOTHESES

Stimulus–organism–response theory

Adoption of the S-O-R framework concerning loyalty has been conducted in specific areas, such as live streaming apps effect (Ho & Chow, 2023), store loyalty (Koo & Kim, 2013), and brand community loyalty (Kamboj et al., 2018). In the banking area, the framework has been employed in studies of artificial intelligence (Ho & Chow, 2023), financial advertisement (Dogra et al., 2023), banking loyalty and relationship quality (Izogo et al., 2017), experience and brand equity (Loureiro & Sarmento, 2018), mobile banking environment and engagement (Sahoo & S. Pillai, 2017), service quality and loyalty (Famiyeh et al., 2018), and mobile

banking information content and transaction intention (Sreejesh et al., 2016). Therefore, S-O-R frameworks have been confirmed in conventional and electronic banking areas.

This study applies the S-O-R framework to investigate the relationship between environmental cues, namely LPs (S), perceived value (O), bank loyalty (R), and saving account services. The banking LP affects customers' emotional responses, such as policy, rewards, and information usefulness. Organisms in the S-O-R model refer to consumers' mental responses influenced by the external environment (Kıymalıoğlu et al., 2024) . In this study, the organism is conceptualized as perceived value towards banking. The response in the S-O-R model represents the complex cognitive and behavioral processes characterizing the overall consumer decision process, consisting of the following stages: pre-search, information search and acquisition, decision-making, and post-decision (Kıymalıoğlu et al., 2024). This study's responses (R) approach behaviors represent customer loyalty to a particular bank as a consumer post-decision.

Loyalty Programs

Prior research on loyalty programs (LPs) reports mixed findings regarding their effectiveness in fostering loyalty (Kaur, 2024; Krampe et al., 2025; Telli & Aydin, 2026). While rewards may enhance perceptions of fairness, satisfaction, and customer interest, they do not consistently lead to loyalty and may even weaken commitment when perceived as purely transactional (Söderlund & Colliander, 2015). Economic rewards often produce stronger immediate effects than social rewards, although social rewards facilitate relational engagement (Ladeira et al., 2025). These inconsistencies indicate that LPs should not be viewed solely as outcomes-driven mechanisms, but rather as environmental stimuli whose effectiveness depends on customers' internal evaluations. Banking loyalty research supports viewing LPs as behavioral habit-shaping tools (Kim et al., 2024), relational investments (Yen & Chen, 2025), and economic value-exchange systems (Thach et al., 2025), and validates policy clarity, reward attractiveness, and transparency as central dimensions for explaining and measuring customer responses (Omar & Musa, 2011).

Within the S-O-R framework, LP attributes—policy, rewards, and information usefulness—function as stimuli (S) that shape customers' cognitive and affective evaluations, conceptualized as perceived value (O). Transparent and fair LP policies reduce perceived effort and uncertainty, increasing the benefits relative to the costs incurred (Ladeira et al., 2025). Meaningful and relevant rewards enhance economic and psychological value by reinforcing exchange fairness and motivating reward redemption through cognitive and psychological incentives(E. Hwang et al., 2019) . In addition, useful LP information, such as reminders and clear communication, reduces ambiguity and enhances perceived control, enabling customers to better realize program benefits. Beyond transactional benefits, LPs can also reduce distrust, resolve customer ambivalence, and strengthen perceived relational bonds (Utz et al., 2023; Fourie et al., 2023).

However, LP stimuli do not produce uniform responses across customers. Declining LP status may trigger frustration and switching behavior, particularly among long-standing male customers (Banik et al., 2019), and LPs tend to increase customer share primarily among price-sensitive customers rather than already loyal ones (Voorhees et al., 2015). These findings reinforce the S-O-R logic that LPs influence behavioral responses (**R)**—such as loyalty—*indirectly* through customers' internal value evaluations. Accordingly, this study posits that LP attributes (policy, rewards, and information usefulness) positively influence bank customers' perceived value, which serves as the organismic mechanism underlying loyalty formation.

H1a-c: LPs in terms of (a) policy, (b) rewards, and (c) information usefulness positively influence bank customer perceived value.

Loyalty programs (LPs) can foster customer loyalty by reinforcing repeated exchange relationships and reducing customers' motivation to switch service providers. Within the S-O-R framework, LP attributes—policy, rewards, and information usefulness—function as stimuli that directly shape loyalty responses by strengthening commitment, increasing switching costs, and sustaining engagement. Transparent and convenient LP policies lower procedural barriers and encourage continued usage and recommendation behaviors (Omar et al., 2013; Omar & Musa, 2011). Rewards act as tangible reinforcements that motivate ongoing participation and deepen commitment through accumulated benefits, particularly among price-sensitive customers (Corbishley et al., 2023) . In addition, useful LP information maintains program salience, reduces uncertainty, and encourages habitual participation, thereby supporting loyalty behaviors. Beyond transactional incentives, LPs can also reduce distrust and customer ambivalence and strengthen perceived relational bonds, which are essential foundations of loyalty (Fourie et al., 2023; Utz et al., 2023). Accordingly, well-

designed LP attributes provide a clear theoretical basis for proposing that policy, rewards, and information usefulness positively influence bank customer loyalty, as stated in Hypotheses H2a–c.
H2a-c: LPs in terms of (a) policy, (b) rewards, and (c) information usefulness positively influence bank customer loyalty.

Perceived value and customer loyalty
In banking services, perceived value should not be interpreted as a mere expectation of future benefits, but as a cumulative, experience-based evaluation formed through repeated service interactions and ongoing usage (Dölarslan, 2014; Molinillo et al., 2021; Özkan et al., 2020; Yuen et al., 2018). Unlike purchase intention, which reflects short-term behavioral inclination, loyalty emerges from customers' continuous assessments of whether the benefits received—such as service convenience, reasonable fees, and overall advantages—consistently exceed the costs incurred relative to competing banks(Molinillo et al., 2021). In this relational and long-term context, perceived value reflects customers' experienced superiority of the service and functions as a key determinant of their willingness to maintain the relationship, recommend the bank, and resist switching (Hoang et al., 2023; Kant et al., 2019). Within the Stimulus–Organism–Response framework, perceived value represents the organismic state that translates experienced service stimuli into stable behavioral responses, thereby providing a strong theoretical basis for proposing that perceived value positively influences bank customer loyalty .
H3: Perceived value positively influences bank customer loyalty.

Perceived banking security
In banking services, perceived security conditions how customers interpret and evaluate loyalty program (LP) attributes by shaping their confidence in transaction reliability and data protection (Kiran & Hiren, 2017). High perceived security reduces risk and uncertainty, thereby enabling customers to cognitively and emotionally engage with LP attributes and fully realize their benefits. When security is high, transparent LP policies are more likely to be perceived as fair and reliable, strengthening their contribution to perceived value. Similarly, rewards generate higher economic and psychological value when customers trust that points and benefits can be safely accumulated and redeemed; under low security, such rewards may be discounted due to concerns over misuse or loss (Cui et al., 2018). In addition, useful LP information—such as reminders and redemption guidance—enhances perceived value more effectively when customers feel secure, as security increases trust in communicated information and willingness to act upon it, whereas low security may lead to avoidance or skepticism toward such information (Stewart & Jürjens, 2018). Consistent with prior evidence that security strengthens trust, motivation, and long-term reciprocal orientation (Meulenaere et al., 2015), perceived security is expected to amplify the effects of LP policies, rewards, and information usefulness on customer perceived value. Accordingly, the relationships between these LP attributes and perceived value are stronger under high security and weaker under low security.
H4a-c: The level of bank service security moderates the relationship between a) policies, b) rewards, and c) information usefulness of bank LPs and customer perceived value, meaning that (a) the relationship will be stronger when service security is high and (b) the relationship will be weaker when security is low.

Banking services and gender
Gender differences in customer responses to loyalty programs (LPs) can be explained by differences in underlying motivations, risk orientation, and evaluative criteria, as suggested by social role theory(Melnyk & van Osselaer, 2012). Social role theory posits that males and females develop distinct cognitive and behavioral orientations based on socially constructed roles, which influence how they evaluate incentives, information, and relational cues in service contexts (Anglin et al., 2022). Consequently, male and female customers do not necessarily value the same aspects of LPs nor interpret their benefits in the same way. Male customers tend to adopt a more instrumental and goal-oriented evaluation, emphasizing functional efficiency, rules clarity, and tangible outcomes. Prior studies indicate that males are more responsive to structural attributes of services, such as environmental quality, technological features, and procedural clarity (Teeroovengadum, 2022). In the context of LPs, this suggests that policies and rewards are more likely to be evaluated by males as indicators of economic and functional value, thereby exerting a stronger influence on perceived value and loyalty. In contrast, female customers generally exhibit higher risk sensitivity and relational orientation, placing greater emphasis on trust, assurance, and emotional reassurance (Saleem et al., 2022). As a result, females

may derive value and loyalty more strongly from LP attributes that signal relational support, fairness, and reassurance rather than purely transactional efficiency.

These gender-based differences extend to responses toward LP communication and security. Females tend to process security concerns more emotionally and are more cautious in technology-mediated service adoption, whereas males rely more on rational assessments of system functionality (Aboobucker & Bao, 2018; Laukkanen, 2016). Accordingly, the effectiveness of LP information and perceived security in shaping value and loyalty is likely to differ between males and females. Informational cues and security assurances may enhance perceived value and loyalty more strongly for females by reducing anxiety and perceived risk, while males may focus more on how LP attributes directly contribute to utility and outcomes. Empirical evidence across service contexts consistently confirms that gender moderates the relationships between service quality, satisfaction, value, and loyalty (Jin et al., 2013; Ma et al., 2014). Extending this logic to banking LPs, gender is expected to condition how customers interpret LP policies, rewards, and information usefulness, as well as how perceived security amplifies these effects. Therefore, gender serves as a meaningful contextual moderator that explains why identical LP designs may generate different value perceptions and loyalty outcomes among male and female customers.

H5a-c: Gender moderates the relationship between LPs in terms of (a) policy, (b) rewards, (c) information usefulness, and bank customer perceived value.

H6a-c: Gender moderates the relationship between LPs in terms of (a) policy, (b) rewards, (c) information usefulness, and (d) perceived value and bank customer loyalty.

H7a-c: The moderating effect of perceived security on the relationship between LPs in terms of (a) policy, (b) rewards, and (c) information usefulness differs between males and females.

Figure 1 shows the research framework of this study.

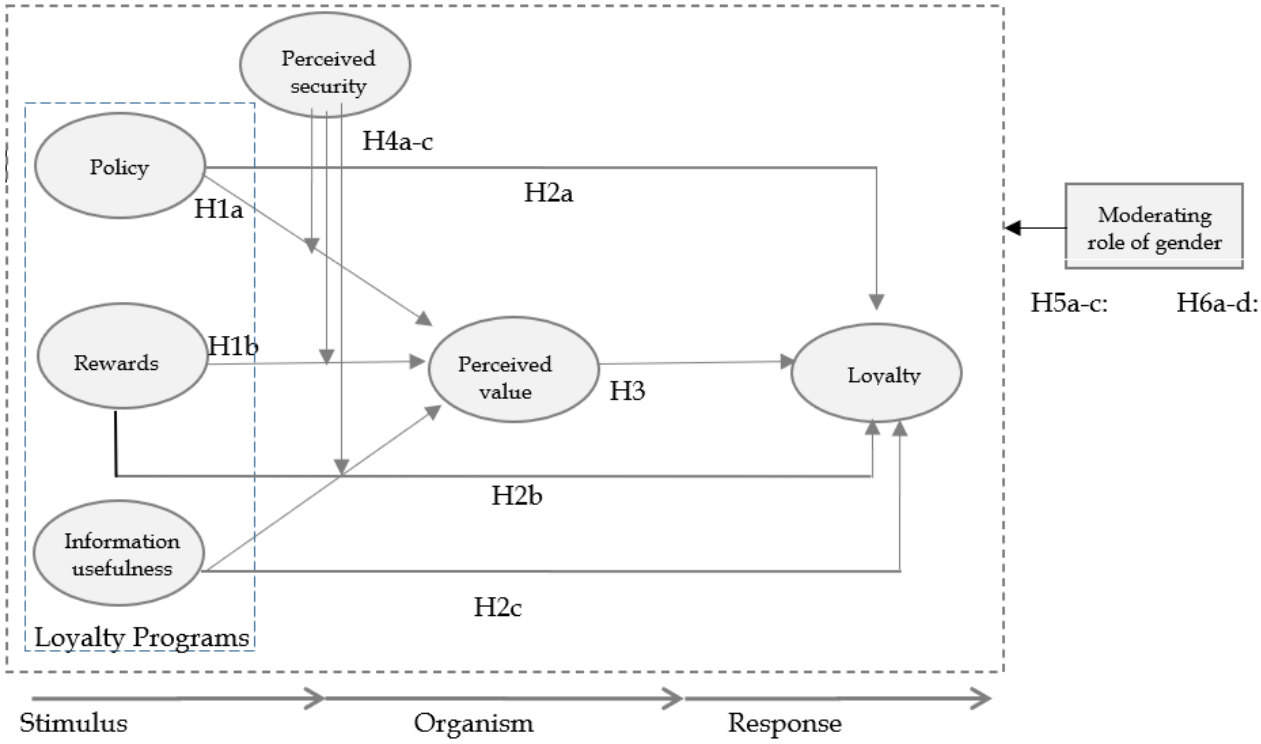

Figure 1. Research Framework

3. RESEARCH METHOD

Sample description

Three hundred eighty-eight respondents volunteered to participate. One hundred eighty were male (46.4 percent), and 208 were female (53.6 percent). Most participants were between 20 and 24 years old (50.5 percent). 152 (39.2 percent) were students and 104 (26.8 percent) were working professionals, whereas 12 (3.1 percent) were civil servants and 82 (21.1 percent) were self-employed or had their businesses. Furthermore, 215 (44.4 percent) had only one saving account, 138 (35.6 percent) had two saving accounts, and the remaining 35 (9 percent) had more than two saving accounts. Concerning the length of time, the respondents had been bank customers, 65 (16.8 percent) had been so for 6-12 months, 138 (35.6 percent) for 12-23 months, 114 (29.4 percent) for 24-35 months, and the remaining 71 (18.3 percent) for over 36 months. Regarding their LP behavior, all of the respondents had redeemed points in the last month, the majority doing so once 282 (72.7 percent), 80 (20.6 percent) twice, and 26 (6.7) more than twice. Out of the 388, 359 (92.5 percent) used ATMs, 122 (31.4 percent) used mobile banking, 111 (28.6 percent) used internet banking, and 43 (11.1 percent) used SMS banking.

Descriptive analysis

Table I shows a descriptive analysis of the items used as construct measurements, such as mean, loading factor, standard deviation, and sig t-test.

Table 1. Mean, loading factor, standard deviation, sig t-test.

Construct and Items	M	LF	Female		Male		Gap F-M, Sig
			M	SD	M	SD	
Policy (Omar & Musa, 2011)							
LP has a rewards procedure that is easy to understand.	5.68	0.67**	5.67	0.81	5.69	0.73	-0.02ns
LP gives enough time to exchange points.	5.67	0.67**	5.67	0.74	5.67	0.79	0.00 ns
LP allows points to be received quickly.	5.74	0.72**	5.75	0.90	5.72	0.88	0.03 ns
LP has clear prerequisites for participation.	5.90	0.69**	5.87	0.83	5.94	0.83	-0.07 ns
LP has a clear way of calculating points.	5.88	0.66**	5.90	0.87	5.87	0.86	0.03 ns
Rewards (Omar & Musa, 2011)							
LP offers quality rewards.	5.94	0.71**	5.95	0.84	5.93	0.90	0.02 ns
LP offers branded rewards.	5.81	0.81**	5.84	0.90	5.77	0.99	0.07 ns
LP offers rewards that fit my needs.	5.68	0.68**	5.72	0.91	5.63	0.96	0.09 ns
LP offers attractive rewards.	5.88	0.76**	5.91	0.80	5.86	0.92	0.05 ns
Information usefulness (Omar & Musa, 2011)							
LP reminded me of the expiry date of the points.	5.66	0.82**	5.66	0.97	5.66	0.95	0.00 ns
LP informed about outlets that participate in the LP.	5.61	0.85**	5.58	0.96	5.63	1.07	-0.05 ns
LP reminded me of the voucher expiry date.	5.74	0.77**	5.76	0.94	5.71	0.96	0.05 ns
Perceived security (Xie et al., 2017)							
I feel safe in making transactions through this savings account.	6.03	0.97**	6.07	0.74	5.97	0.79	0.10 ns
I am not worried about the security aspect of this savings account.	6.01	0.97**	6.04	0.79	5.97	0.87	0.07 ns
Perceived value. (Benlian & Hess, 2011; Lee, 2009; Ryu, 2018)							
This one offers a more attractive service than savings accounts at other banks.	5.79	0.79**	5.80	0.90	5.79	0.90	0.01 ns
Compared to savings accounts at other banks, this one charges a more reasonable fee than similar services.	5.80	0.72**	5.80	0.95	5.80	0.89	0.00 ns
This one provides more free services than savings accounts from other banks.	5.60	0.67**	5.57	1.00	5.61	1.02	-0.04 ns
Comparing what I pay for what I get, this savings account provides better benefits.	5.77	0.80**	5.78	0.91	5.76	0.94	0.02 ns

Construct and Items	M	LF	Female		Male		Gap F-M, Sig
			M	SD	M	SD	
Comparing what I pay with what other banks might provide, this savings account provides better benefits.	5.82	0.80**	5.79	0.91	5.87	1.00	-0.08ns
Loyalty (Zhao et al., 2016)							
I would recommend this savings account to those who need to make savings.	5.98	0.73**	6.06	0.81	5.88	0.94	0.18*
I will invite friends to use this savings account.	5.85	0.65**	6.00	0.81	5.68	1.00	0.32*
I will invite relatives to use this savings account.	5.82	0.67**	6.00	0.83	5.62	1.06	0.38*
I will post a positive message about this savings account on social media.	5.81	0.67**	5.94	0.96	5.67	1.13	0.27*
I intend to continue to use this savings account.	6.21	0.72**	6.30	0.81	6.11	0.97	0.19*

Note: LP = LP name; LF=loading factor; M=mean; SD = standar deviation; * =p<0.05; **=p<0.001; ns=not significant

Based on Table 1, the responses to items range from 5.60 to the statement on perceived value ("Compared to savings accounts from other banks, this savings account provides more free services") to 6.21 on loyalty ("I intend to continue to use this savings account"). These show that the responses exceed the mean score, indicating a relatively high customer assessment. Through the independent-sample t-test analysis, a comparison can be made between genders, where the responses of females are mostly higher than those of males, and reactions to loyalty show significant differences.

Measurement model

The study employed Warp PLS version 7.0 to validate the measurement model, and confirmatory factor analysis (CFA) was performed to determine the reliability and validity of the scales. Before data are analyzed, the measurement model must provide confidence that the research data are feasible. A validity and reliability test was performed to test the appropriateness of the instruments and the data collected for statistical analysis. The test was conducted by confirming convergent and discriminant validity. *Convergent validity* aims to establish how items converge in measuring the constructs. It was performed by evaluating whether the constructs met the criteria if the value of AVE> 0.5 and the loading factor> 0.6 (p <0.05). The convergent validity test results show an AVE value> 0.5, except for PL, which is acceptable. AVE <0.5 is good as long as CR> 0.6 because convergent validity is still sufficient (Cheung et al., 2024). The loading factors in the items show values above 0.6, which are significant (Table I). Therefore, both indicate that the items are integrated or meet the convergent validity criteria. *Discriminant validity* shows how much items in each construct differ from those in others. The discriminant validity is acceptable when the square root of AVE for each construct is higher than the correlation coefficient of different constructs. A statistical test was used by observing the value of the square root AVE> correlation with other constructs. Table II shows the AVE square root values on the diagonal score, where the correlation value is greater than the correlation value of other constructs. As a result, it shows that the items are different from items with other constructs.

Table 2. Construct Validity and Reliability

Construct	Code	PL	RW	IU	PS	PV	LO
Policy	PL	(0.684)	0.318	0.478	-0.034	0.371	0.406
Rewards	RW	0.318	(0.740)	0.312	0.072	0.308	0.308
Information usefulness	IU	0.478	0.312	(0.811)	-0.024	0.522	0.359
Perceived security	PS	-0.034	0.072	-0.024	(0.972)	0.013	0.112
Perceived value	PV	0.371	0.308	0.522	0.013	(0.758)	0.504
Loyalty	LO	0.406	0.308	0.359	0.112	0.504	(0.732)
Composite Reliability	CR	0.814	0.828	0.852	0.972	0.871	0.851
Cronbach's Alpha	α	0.714	0.723	0.739	0.942	0.814	0.780
Average Variance Extracted	AVE	0.467	0.548	0.658	0.945	0.574	0.535

Number of items	-	5	4	3	2	5	5

Note: 1) Overall correlation between the constructs is p <0.0001; 2) The scores show pairwise correlations between the constructs, while the diagonal scores (in bold) indicate the square root of AVE.

The reliability test was performed by evaluating the extent to which items could be used in measuring the constructs consistently. For this, a statistical test was performed by observing the composite reliability and Cronbach's alpha; in Table II, both exceed the specified cut-off values of 0.7 and 0.6, respectively. This result shows that the items have produced consistent responses in the construct measurements. Therefore, it can be concluded that the research instruments and data are valid and reliable; in other words, they meet the requirements for hypothesis testing.

Hypothesis testing

Hypothesis testing was performed using the structural equation model to simultaneously estimate the overall hypothesis in a single model. In hypothesis testing, control variables are also included to reduce the effect of these variables on the testing results. The variance inflation factor (VIF) was also estimated and met the cut-off value (VIF <3.3) to avoid collinearity among the predictor variables (Kock, 2015). The results of the research hypothesis testing are shown in Table III. From the Table, it can be seen that most of the research hypotheses were confirmed, although the two on the moderation role of perceived security were not. In the research model, the role of policy on perceived value has a positive effect (β = 0.13, p <0.001), which means customers with a higher policy assessment tend to have higher perceived value. Therefore, *H1a is supported*. Rewards were also confirmed to positively affect customer value (β = 0.20, p <0.001), meaning that bank customers with a higher perception of rewards tend to have higher perceived value. *This result supports H1b.* Moreover, information usefulness has a significant positive effect on perceived value. Hence *(H1c) is also supported* (β = 0.35, p <0.001), which means that higher information usefulness indicates higher perceived value. The positive effect of perceived value on loyalty *(H3) was also supported* (β = 0.33, p <0.001), showing that perceived value makes a positive contribution to customer loyalty. The effect of LPs on loyalty was confirmed by testing the role of policy (H2a: β = 0.21, p <0.001), rewards (H2b: β = 0.14, p <0.001), but not of information usefulness (H2c: β = 0.03, p> 0.05). Therefore, H2a and H2b are supported, but H2c is not.

Testing the moderating role of perceived security revealed no confirmation of the relationship between policy and perceived values (β = 0.03, p> 0.05). Likewise, the moderating role of the relationship between rewards and perceived value was not confirmed (β = 0.12, p <0.001). Therefore, *H3a and H3b are not supported.* However, the moderating role of perceived security on the relationship between information usefulness and perceived value was confirmed (β = 0.14, p> 0.001), meaning *H2c is supported*. This result shows that increasing the perception of customer security will strengthen the role of information usefulness in improving customer value. In other words, the effectiveness of the information's usefulness will be higher, especially for customers who feel that transactions through savings accounts are safe.

Table 3. Hypothesis Testing

Hypothesis	Relationship	VIF	Beta, p-value	Conclusion
	Path			
H1a	Policy → perceived value	1.35	0.13**	Supported
H1b	Rewards → perceived value	1.16	0.20**	Supported
H1c	Information usefulness → perceived value	1.52	0.35**	Supported
H2a	Policy → loyalty	1.42	0.21**	Supported
H2b	Rewards → loyalty	1.16	0.14**	Supported
H2c	Information usefulness → loyalty	1.61	0.03ns	Not supported
H3	Perceived value → loyalty	1.51	0.33**	Supported
H4a	Security* policy → perceived value	1.38	-0.03ns	Not supported
H4b	Security* rewards → perceived value	1.71	-0.01ns	Not supported
H4c	Security* information usefulness → perceived value.	1.48	0. 14**	Supported

Notes: ** = p<.01; * = p<.05; VIF = variance inflation factors; ns = not significant; n.a = not available

Moderation effects of gender

Four control variables were included in the data analysis to reduce the bias of the analysis results. The statistical tests showed no significant effect from them, namely age (β = 0.03, p> 0.05), length of time as a customer (β = -0.00, p> 0.05), frequency (β = 0.09, p> 0.05), and occupation (β = 0.09, p> 0.05). Multi-group SEM with a constraint latent group analysis test was performed to test the moderating effects of gender on each of the paths in the hypothesized model (Kock, 2014, 2020). The gender moderation analysis shows significant differences between males and females, as shown in Table IV. The gender moderation test confirmed the relationship between policy and perceived value for males (β = 0.22, p <0.01) and females (β = 0.16, p <0.05), which indicates a significant difference between them (ALGC = 0.10, p <0.05). These results mean that the male effect is more powerful than that on females. Accordingly, *H5a is supported*. The moderation effect of gender on the relationship between rewards and perceived value was also confirmed (ALGC = 0.12, p <0.05), which the effect was confirmed for males (β = 0.32, p <0.01) but not for females (β = 0.08, p> 0.05). In other words, the effect of rewards on perceived value only occurs in males, so *H5b is supported*. The moderation effect of gender on the relationship between information usefulness and perceived value was not confirmed (ALGC = 0.06, p>0.05). However, the effect was confirmed for both males (β = 0.35, p <0.01) and females (β = 0.30, p< 0.01). Therefore, *H5c is not supported.*

Gender moderated the relationship between policy and loyalty (β=0.17, p<0.01), with the ties being slightly stronger for male customers (β=0.19, p<0.01) than female ones (β=0.16, p<0.05). This result means that policy plays a more important role for males than females. Therefore, *H6a is supported*. However, gender does not moderate the relationship between rewards and loyalty (β^{ALGC}=0.04, p>0.05), meaning there was no difference in the role of rewards on loyalty between males (β=-0.02, p>0.05) and females (β=0.19, p<0.01). Hence, *H6b is not supported*. Gender moderates the relationship between information usefulness and loyalty (β^{ALGC}=0.29, p<0.01), although the relationship is only for male customers (β=0.22, p<0.01), not for female ones (β=-0.04, p>0.05). This result reveals that information usefulness plays a role for male, but not female, customers. Hence, *H6c is supported*. Moreover, regarding the relationship between perceived value and loyalty, gender moderates the relationship (β^{ALGC}=0.25, p<0.01). The association is slightly stronger for males (β=0.43, p<0.01) than females (β=0.28, p<0.01). This result means that perceived value is more important for male than female customers. *H2d is supported.*

Table 4. Gender Moderation Hypothesis Testing

	Path/ Control variable	β - Male (180)	β -Female (208)	ALGC	Standard Error	P-value	Conclusion
	Path						
H5a	Policy → perceived value	0.22**	0.16*	0.10*	0.50	0.04	Supported
H5b	Rewards → perceived value	0.32**	0.08ns	0.12*	0.50	0.02	Supported
H5c	Information usefulness → perceived value	0.35**	0.30**	0.06ns	0.50	0.19	Not supported
H6a	Policy → loyalty	0.19**	0.16*	0.17**	0.50	<0.001	Supported
H6b	Rewards → loyalty	-0.02ns	0.19**	0.04ns	0.50	0.39	Not supported
H6c	Information usefulness → loyalty	0.22**	-0.04ns	0.29**	0.49	<0.001	Supported
H6d	Perceived value → loyalty	0.43**	0.28**	0.25**	0.05	<0.001	Supported
H7a	Security*policy → perceived value	-0.04ns	-0.12*	0.10ns	0.05	0.057	Not supported
H7b	Security*rewards → perceived value	-0.01ns	0.03ns	0.01ns	0.05	0.893	Not supported
H7c	Security*information usefulness → perceived value.	-0.06ns	0.18**	0.11*	0.05	0.03	Supported

Notes: ** = p<.01; * = p<.05; ns = not significant: ALGC = absolute latent growth coefficients

Gender was also identified by the differences in perceived security ($\beta = 0.28$, $p < 0.01$) in moderating the relationship between information usefulness and perceived value, which did not occur for males ($\beta = -0.06$, $p > 0.05$), but did for females ($\beta = 0.18$, $p < 0.01$). This difference means that perceived security is important in female perceived value, not males. However, there is no difference between males and females in the moderating role of perceived security on the effects of policy ($\beta^{ALGC}=0.10$, $p>0.05$) and rewards ($\beta^{ALGC}=0.01$, $p>0.01$) on perceived value. Hence, *H7c is supported,* but *H7a and H7b are not supported.*

4. DATA ANALYSIS AND DISCUSSION

The role of LPs

Prior literature attributes LPs as spikes to two behavioral effects: increased spending to collect points pre-redemption and increased post-redemption (Nastasoiu et al., 2021). An essential question in this study was whether LPs positively impact *perceived value*. The importance of policy, rewards and information usefulness for customer value and loyalty has been confirmed. Also, that *policy* positively affects perceived value. This finding indicates that policies (such as easy-to-understand procedures, time available to redeem points, service speed, clarity of participation requirements, and clarity of reward calculations) are essential in increasing customers' perceived value. Another finding is that *rewards*, as reflected in the quality, brand, suitability for customer needs, and attractiveness of gifts, are confirmed to increase customers' perceived value. Moreover, *information usefulness* is another crucial element in increasing perceived value, as reflected in the role of marketers in informing and reminding customers of LPs. Therefore, these three factors are confirmed to improve customers' perceived value. This value is reflected in customers' interest in LPs, their perception of more reasonable prices, and superior benefits to competitors.

The findings validate previous studies, especially regarding the role of LPs in increasing customer benefits (Söderlund & Colliander, 2015). Policy, rewards, and information usefulness in this study confirm the findings from cardholder LPs (Omar et al., 2013). The only difference is that the most critical factor in LPs is the policy for cardholders, but in this study, it is shown to be information usefulness. The role of rewards is similar in the frequent flyer program context, in which rewards motivate customers to act to obtain a benefit (Meyer-Waarden, 2013). LPs are also confirmed to play an essential role in increasing customer loyalty. This finding is confirmed especially in the policy factor, which is reflected in accessible, straightforward, and fast programs that can encourage customers to be loyal, which is reflected in their intention to recommend, invite others, and continue to use the services. Moreover, this study also confirms the role of rewards in increasing customer loyalty, meaning they are essential as an instrument in this context. However, this study did not guarantee its role in increasing customer loyalty with information usefulness. These results confirm the findings of the previous study by (Lee et al., 2015) that economic rewards increase loyalty. Moreover, the results confirm the conclusion of the effect of the gamification of LPs on consumer loyalty towards LPs (Hwang & Choi, 2020). Moreover, the impact on loyalty also confirms another previous study, in which LPs enhanced loyalty to healthcare service providers (Gambarov et al., 2017).

The role of LPs in increasing loyalty is also mediated by perceived value, precisely policy and rewards. This mediation means that policies and rewards are directly related to loyalty and increase perceived value. However, its role is more connected to perceived value than loyalty regarding the information's usefulness. Information usefulness does not directly affect loyalty but instead through perceived value. This finding means that only useful information that provides value can increase loyalty. It is consistent with previous studies, which have perceived that program values, especially psychological values and store loyalty (Omar et al., 2013). Therefore, the findings validate the S-O-R framework in the context of LPs in banking. The difference between this study to previous ones (Chang, 2013; Luo et al., 2016; Salim, 2009; Vieira, 2013) is the context and components of the relationships among environmental cues, stimuli, and responses. Therefore, the theoretical contribution of this study is its extension of the S–O–R framework to identify attributes of LPs as stimuli, perceived value as an organism, and loyalty as a response.

The moderation role of perceived security

This study explicitly examines the moderating role of perceived security in the relationship between loyalty program (LP) attributes and customer perceived value using interaction effects within the PLS-SEM framework. The moderation analysis reveals that perceived security does not uniformly moderate all LP attributes, but instead plays a selective and context-specific role, thereby addressing the central research question regarding when and how security matters in banking loyalty programs. Empirical results show that perceived

security significantly moderates only the relationship between information usefulness and perceived value, while its moderating effects on the relationships between policy and perceived value, as well as rewards and perceived value, are not supported. This finding indicates that perceived security does not amplify all LP mechanisms indiscriminately; rather, it strengthens LP effectiveness specifically when customer value creation depends on information processing and communication.

The significant interaction effect demonstrates that the positive influence of information usefulness on perceived value is stronger for customers with higher perceived security than for those with lower perceived security. In practical terms, customers who feel confident about transaction safety and data protection are more receptive to LP-related information, such as reminders, notifications, and redemption guidance. Under high-security conditions, such information is interpreted as helpful and value-enhancing, thereby increasing customers' overall evaluation of the benefits received from the bank. Conversely, when perceived security is low, customers are more likely to distrust or ignore LP communications, limiting the extent to which information usefulness translates into perceived value. The absence of moderation effects for policy and rewards further reinforces the specificity of perceived security's role. LP policies and rewards represent relatively tangible and structural program attributes that customers can evaluate independently of security perceptions. As a result, their contribution to perceived value remains relatively stable regardless of customers' perceived security levels. In contrast, LP information requires active cognitive engagement and trust in communication channels, making its effectiveness more sensitive to customers' security perceptions.

These findings align with prior research suggesting that perceived security primarily enhances trust formation and information credibility in banking services (Cui et al., 2018; Stewart & Jürjens, 2018), rather than uniformly strengthening all service attributes. Consistent with previous study, security functions as a foundational condition that determines whether customers are willing to engage with bank-provided information and incorporate it into their value assessments (Susanto et al., 2013). Moreover, parallels can be drawn with organizational behavior studies showing that security strengthens motivation, reciprocal orientation, and information utilization only when individuals perceive low risk in engagement (Meulenaere et al., 2015). Overall, the moderation analysis confirms that perceived security is not a general enhancer of loyalty program effectiveness, but a targeted amplifier that increases the value-generating role of information usefulness. This nuanced finding provides a more refined understanding of the role of security in banking LPs and explains why prior studies may have reported inconsistent results regarding the impact of security-related factors.

The moderation role of gender

Although banking companies are increasingly embracing LPs, little research has investigated how gender makes a difference in the impact of such programs on customer loyalty. This study confirms the moderation role of gender in increasing the effectiveness of LPs on perceived value. There are differences in the effectiveness of LPs between male and female customers, particularly policy and reward factors. The effect of policy on perceived value is higher amongst males, meaning stimulants such as procedures and requirements are more applicable for men than women. Moreover, the impact of rewards on perceived value was confirmed for males but not females. However, there is no difference in the effect of information usefulness on perceived value between males and females; therefore, the effectiveness of information usefulness cannot be differentiated. Gender also distinguishes the impact of LPs on customer loyalty, as seen in the policy and information usefulness factors. The effect of *policy* on loyalty is higher amongst males than females, which means that policy increases loyalty for males. However, the impact of information *usefulness* on loyalty only occurs in females. This finding implies that efforts to inform and remind customers of LPs are needed more by females than by males, especially in building loyalty. The role of *rewards* in increasing loyalty is confirmed for females but not males.

The effect of perceived value on loyalty was different, with a higher impact on males than females, meaning loyalty enhancement by increasing customer value will be more effective for males. This finding also indicates that loyalty is more rational for males than females. Therefore, long-term relationships with males are more likely based on properly considering customer value. Gender also differentiates the role of perceived security. This study found that the role of security differs between males and females, especially regarding the effect of information usefulness on perceived value. For female customers, there is a different effect of security, with information usefulness enhancing perceived value for those who feel their savings account is secure compared to those who think theirs is not secure. In other words, efforts to inform and remind customers about LPs are more effective with females who feel safe. However, there is no difference

in the role of perceived security regarding male customers, meaning the issue is more sensitive for females (Alshurideh et al., 2021). These findings align with those on the role of gender in the previous conclusions (Ma et al., 2014). Males and females have different attitudes and behaviors based on the characteristics of their community and culture and the social roles of society (Ong et al., 2024). The findings also expand the S-O-R framework of previous studies (Famiyeh et al., 2018; Loureiro & Sarmento, 2018; Sahoo & Pillai, 2017) by identifying gender in the model.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Conclusions

This study contributes to the banking loyalty program literature by demonstrating that loyalty programs (LPs) do not operate as uniform mechanisms, but create customer value and loyalty through conditional and differentiated pathways. Empirically, the findings confirm that LP attributes—policy, rewards, and information usefulness—serve as important stimuli influencing perceived value and loyalty. More importantly, the study shows that perceived value functions as a central organismic mechanism that translates LP attributes into sustained loyalty, reinforcing its role as a cumulative, experience-based evaluation in long-term banking relationships. A key theoretical contribution lies in refining the Stimulus–Organism–Response (S-O-R) framework by identifying perceived security as a selective situational moderator. Rather than uniformly strengthening all LP effects, perceived security amplifies only the value-creating role of information usefulness, highlighting security's function in shaping customers' trust in and receptiveness to informational cues. This finding advances existing theory by moving beyond generalized assumptions about security and revealing its targeted influence within loyalty program dynamics.

In addition, the study provides novel empirical evidence on gender-contingent loyalty mechanisms. Male customers derive loyalty primarily through value-based evaluations of LPs, whereas female customers exhibit stronger direct loyalty responses to LP attributes, indicating distinct evaluative orientations. By uncovering these differentiated mechanisms, the study extends prior gender and loyalty research and offers a more nuanced understanding of how LP effectiveness varies across customer segments. Overall, this research enriches loyalty program theory by integrating perceived value, selective security moderation, and gender differences into a unified explanatory framework, offering a more context-sensitive account of customer loyalty formation in banking services.

Managerial implications

Banking LPs are a driving force for increasing customer loyalty in determining banking service sustainability. Enhancing the role of LPs will help achieve their goals in several ways. Strengthening LPs can be achieved by managing three main factors: policy, rewards, and information usefulness. Improvements in policy can be made by precise participation requirements, fine points calculation, quick points delivery, easy redemption procedures, and sufficient redemption time. The rewards factor can be improved by providing branded, attractive, a certain quality, and corresponding with customer needs. Enhancing information usefulness can be achieved by informing about redemption outlets and reminding customers of the expiry date of points and vouchers. The security of banks' leading service savings accounts plays an essential role in influencing the effectiveness of LPs in increasing perceived value, especially regarding the information usefulness factor. Bank management needs to pay attention to this factor in managing LPs by maintaining confidence that savings account transactions are safe, trusted, and not a cause for worry. Therefore, this will increase banks' effectiveness in informing and reminding customers about LPs.

It is also necessary for bank management to understand the characteristics of male and female customer responses to LPs to develop different strategies. For *male customers*, LPs can increase their perceived values and loyalty. It is important to emphasize policy, rewards, and information usefulness to increase perceived value. However, it is necessary to emphasize only policy and information usefulness to enhance loyalty. In other words, rewards for males are more a determinant of perceived value than loyalty. Bank management also needs to manage the perceived value of a male customer, as this is the most critical determinant for their commitment. However, security does not affect LPs' role in increasing value, so the management can ignore it. For *female customers*, bank management needs to emphasize information usefulness and policy to increase perceived value; they are necessary to accentuate rewards and policies to enhance loyalty. In other words,

rewards for females are more an instrument for intensifying their loyalty and not improving their perceived value. Additionally, bank management needs to enhance perceived value to strengthen female loyalty. Security for female customers can increase the role of LPs (information usefulness) in improving customers' perceived value.

Limitations and further research

The results of this study are subject to several limitations. *First*, using the non-probabilistic sampling technique limits generalizing the findings. *Second*, the sample of just two service provider banks will certainly pose limitations in representing LPs in the banking industry. *Third*, the LPs covered in the study only relate to three relevant factors, namely policy, rewards, and information usefulness, but other factors are not elaborated. Further research is recommended on different aspects of LPs, such as Artificial intelligence (Ho & Chow, 2023), gamification (Hwang & Choi, 2020), the type and time of rewards (Meyer-Waarden, 2015), and pricing and denomination (Ashley et al., 2016). *Fourth,* the study only uses limited situational aspects of banking services: security and gender. Further research could use other situational factors, such as service-related or customer-related ones (Meyer-Waarden, 2015), psychographic characteristics (Melnyk & Bijmolt, 2015), purchase orientation (Meyer-Waarden, 2013) and culture value (Thompson & Chmura, 2015). These will explain differences in the effectiveness of LPs.

REFERENCES

Aboobucker, I., & Bao, Y. (2018). What obstruct customer acceptance of internet banking? Security and privacy, risk, trust and website usability and the role of moderators. *Journal of High Technology Management Research*, *29*(1), 109–123. https://doi.org/10.1016/j.hitech.2018.04.010

Alshurideh, M. T., Al Kurdi, B., Masa'deh, R., & Salloum, S. A. (2021). The moderation effect of gender on accepting electronic payment technology: a study on United Arab Emirates consumers. *Review of International Business and Strategy*, *31*(3), 375–396. https://doi.org/10.1108/RIBS-08-2020-0102

Anglin, A. H., Kincaid, P. A., Short, J. C., & Allen, D. G. (2022). Role Theory Perspectives: Past, Present, and Future Applications of Role Theories in Management Research. *Journal of Management*, *48*(6), 1469–1502. https://doi.org/10.1177/01492063221081442

Ashley, C., Gillespie, E. A., & Noble, S. M. (2016). The effect of loyalty program fees on program perceptions and engagement. *Journal of Business Research*, *69*(2), 964–973. https://doi.org/10.1016/j.jbusres.2015.09.001

Baik, J. S., & Famularo, J. (2024). Contextual integrity of loyalty programs, compromised? Interrogating consumer health data practices and networked actors in the U.S. retail sector. *Telecommunications Policy*, *48*(7). https://doi.org/10.1016/j.telpol.2024.102780

Bellaali, F. (2024). Effectiveness of Customer Loyalty Programs on SMEs in Morocco. *International Journal of Applied Sciences & Development*, *3*, 200–208. https://doi.org/10.37394/232029.2024.3.20

Belli, A., O'Rourke, A. M., Carrillat, F. A., Pupovac, L., Melnyk, V., & Napolova, E. (2022). 40 years of loyalty programs: how effective are they? Generalizations from a meta-analysis. *Journal of the Academy of Marketing Science*, 50(1), 147-173.

Benlian, A., & Hess, T. (2011). Opportunities and risks of software-as-a-service: Findings from a survey of IT executives. *Decision Support Systems*, *52*(1), 232–246. https://doi.org/10.1016/j.dss.2011.07.007

Chang, K. C. (2013). How reputation creates loyalty in the restaurant sector. *International Journal of Contemporary Hospitality Management*, *25*(4), 536–557. https://doi.org/10.1108/09596111311322916

Chen, Y., Mandler, T., & Meyer-Waarden, L. (2021). Three decades of research on loyalty programs: A literature review and future research agenda. *Journal of Business Research*, *124*(March 2020), 179–197. https://doi.org/10.1016/j.jbusres.2020.11.057

Cheung, G. W., Cooper-Thomas, H. D., Lau, R. S., & Wang, L. C. (2024). Correction to: Reporting reliability, convergent and discriminant validity with structural equation modeling: A review and best-practice recommendations (Asia Pacific Journal of Management, (2024), 41, 2, (745-783), 10.1007/s10490-023-09871-y). In *Asia Pacific Journal of Management* (Vol. 41, Issue 2, pp. 785–787). Springer. https://doi.org/10.1007/s10490-023-09880-x

Cooper, D. R., & Schindler, P. S. (2014). *Bussiness Research Methods*. McGraw-Hill Irwin.

Corbishley, K. M., Meintjes, C., & Mason, R. B. (2023). Loyalty program benefits and their effect on relationship quality and loyalty to the retailer. *International Journal of Research in Business and Social Science (2147-*

4478), *12*(2), 1–14. https://doi.org/10.20525/ijrbs.v12i2.2320

Cui, F., Lin, D., & Qu, H. (2018). The impact of perceived security and consumer innovativeness on e-loyalty in online travel shopping. *Journal of Travel and Tourism Marketing*, *35*(6), 819–834. https://doi.org/10.1080/10548408.2017.1422452

Darzi, M. A., & Bhat, S. A. (2018). Personnel capability and customer satisfaction as predictors of customer retention in the banking sector: A mediated-moderation study. *International Journal of Bank Marketing*, *36*(4), 663–679. https://doi.org/10.1108/IJBM-04-2017-0074

Dogra, P., Kaushal, A., & Kalia, P. (2023). What drives the investment intentions of emerging economy millennials? Examining the effect of financial advertisement with the PLS-SEM. *Journal of Financial Services Marketing*, *0123456789*. https://doi.org/10.1057/s41264-022-00202-8

Dölarslan, E. S. (2014). Assessing the effects of satisfaction and value on customer loyalty behaviors in service environments. *Management Research Review*, *37*(8), 706–727. https://doi.org/10.1108/MRR-06-2013-0152

Famiyeh, S., Asante-Darko, D., & Kwarteng, A. (2018). Service quality, customer satisfaction, and loyalty in the banking sector: The moderating role of organizational culture. *International Journal of Quality and Reliability Management*, *35*(8), 1546–1567. https://doi.org/10.1108/IJQRM-01-2017-0008

Fourie, S., Goldman, M., & McCall, M. (2023). Designing for loyalty programme effectiveness in the financial services industry. *Journal of Financial Services Marketing*, *28*(3), 502–525. https://doi.org/10.1057/s41264-022-00158-9

Gambarov, V., Sarno, D., Hysa, X., Calabrese, M., & Bilotta, A. (2017). The role of loyalty programs in healthcare service ecosystems. *TQM Journal*, *29*(6), 899–919. https://doi.org/10.1108/TQM-02-2017-0019

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2013). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Thousand Oaks. *Sage*, 165.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. In *European Business Review* (Vol. 31, Issue 1, pp. 2–24). Emerald Group Publishing Ltd. https://doi.org/10.1108/EBR-11-2018-0203

Henrique, J. L., & De Matos, C. A. (2015). The influence of personal values and demographic variables on customer loyalty in the banking industry. *International Journal of Bank Marketing*, *33*(4), 571.

Ho, S. P. S., & Chow, M. Y. C. (2023). The role of artificial intelligence in consumers' brand preference for retail banks in Hong Kong. *Journal of Financial Services Marketing*, *0123456789*. https://doi.org/10.1057/s41264-022-00207-3

Hoang, D. P., Nguyen, T. H. H., Vuong, N. L., & Van Luong, D. (2023). Linking psychological needs, perceived financial well-being and loyalty: the role of commercial banks. *Journal of Financial Services Marketing*, *28*(3), 466–487. https://doi.org/10.1057/s41264-022-00170-z

Hua, N., Wei, W., L. DeFranco, A., & Wang, D. (2018). Do loyalty programs really matter for hotel operational and financial performance? *International Journal of Contemporary Hospitality Management*, *30*(5), 2195–2213. https://doi.org/10.1108/IJCHM-12-2016-0643

Hwang, E., Baloglu, S., & Tanford, S. (2019). Building loyalty through reward programs: The influence of perceptions of fairness and brand attachment. *International Journal of Hospitality Management*, *76*, 19–28. https://doi.org/10.1016/j.ijhm.2018.03.009

Hwang, J., & Choi, L. (2020). Having fun while receiving rewards?: Exploration of gamification in loyalty programs for consumer loyalty. *Journal of Business Research*, *106*(November 2017), 365–376. https://doi.org/10.1016/j.jbusres.2019.01.031

Izogo, E. E., Reza, A., Ogba, I. E., & Oraedu, C. (2017). Determinants of relationship quality and customer loyalty in retail banking: Evidence from Nigeria. *African Journal of Economic and Management Studies*, *8*(2), 186–204. https://doi.org/10.1108/AJEMS-01-2016-0011

Jia, F., & Wu, W. (2023). A comparison of multiple imputation strategies to deal with missing nonnormal data in structural equation modeling. *Behavior Research Methods*, *55*(6), 3100–3119. https://doi.org/10.3758/s13428-022-01936-y

Jin, N. (Paul), Line, N. D., & Goh, B. (2013). Experiential Value, Relationship Quality, and Customer Loyalty in Full-Service Restaurants: The Moderating Role of Gender. *Journal of Hospitality Marketing and Management*, *22*(7), 679–700. https://doi.org/10.1080/19368623.2013.723799

Kamboj, S., Sarmah, B., Gupta, S., & Dwivedi, Y. (2018). Examining branding co-creation in brand communities

on social media: Applying the paradigm of Stimulus-Organism-Response. *International Journal of Information Management*, *39*(October 2017), 169–185. https://doi.org/10.1016/j.ijinfomgt.2017.12.001

Kant, R., Jaiswal, D., & Mishra, S. (2019). A Model of Customer Loyalty: An Empirical Study of Indian Retail Banking Customer. *Global Business Review*, *20*(5), 1248–1266. https://doi.org/10.1177/0972150919846813

Kaur, H. (2024). The Impact of Loyalty Programs on Customer Retention in the Retail Industry. *Darpan International Research Analysis*, *12*(3), 69–82. https://doi.org/10.36676/dira.v12.i3.57

Kim, J. J., Steinhoff, L., & Palmatier, R. W. (2021). An emerging theory of loyalty program dynamics. *Journal of the Academy of Marketing Science*, *49*(1), 71–95. https://doi.org/10.1007/s11747-020-00719-1

Kim, L., Jindabot, T., & Yeo, S. F. (2024). Understanding customer loyalty in banking industry: A systematic review and meta analysis. *Heliyon*, *10*(17). https://doi.org/10.1016/j.heliyon.2024.e36619

Kiran, J. P., & Hiren, J. P. (2017). Adoption of internet banking services in Gujarat: an extension of TAM with perceived security and social influence. *International Journal of Bank Marketing*, *0*(0), 0. https://doi.org/10.1108/EUM0000000001122

Kıymalıoğlu, A., Yetkiän Özbük, R. M., Aydın Ünal, D., Dirlik, O., & Akar, N. (2024). Unpacking Sustainable Packaging Through the Stimulus-Organism-Response Model: A Systematic Literature Review. In *SAGE Open* (Vol. 14, Issue 4). SAGE Publications Inc. https://doi.org/10.1177/21582440241302320

Kock, N. (2014). Advanced Mediating Effects Tests, Multi-Group Analyses, and Measurement Model Assessments in PLS-based SEM. *International Journal of E-Collaboration*, *10*(1), 1–13. https://doi.org/10.4018/ijec.2014010101

Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of E-Collaboration*, *11*(4), 1–10. https://doi.org/10.4018/ijec.2015100101

Kock, N. (2020). Full latent growth and its use in PLS-SEM : Testing moderating relationships. *Data Analysis Perspectives Journal*, *1*(1), 1–5.

Koo, W., & Kim, Y. K. (2013). Impacts of store environmental cues on store love and loyalty: Single-brand apparel retailers. *Journal of International Consumer Marketing*, *25*(2), 94–106. https://doi.org/10.1080/08961530.2013.759044

Krampe, C., Groot, A. J. de, & Hurst, W. (2025). Green loyalty? Unveiling consumer preferences in sustainable temporary loyalty programs. *Cleaner and Responsible Consumption*, *16*. https://doi.org/10.1016/j.clrc.2025.100253

Ladeira, W. J., Lim, W. M., de Oliveira Santini, F., Rasul, T., Rice, J. L., & Azhar, M. (2025). Fostering conative loyalty in tourism and hospitality loyalty programs: an eye-tracking experiment of reward timing, fairness perception, and visual attention. *Tourism Recreation Research*, *50*(5), 1110–1126. https://doi.org/10.1080/02508281.2024.2369487

Laukkanen, T. (2016). Consumer adoption versus rejection decisions in seemingly similar service innovations: The case of the Internet and mobile banking. *Journal of Business Research*, *69*(7), 2432–2439. https://doi.org/10.1016/j.jbusres.2016.01.013

Lee, J. S., Tsang, N., & Pan, S. (2015). Examining the differential effects of social and economic rewards in a hotel loyalty program. *International Journal of Hospitality Management*, *49*, 17–27. https://doi.org/10.1016/j.ijhm.2015.05.003

Lee, M. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, *8*(3), 130–141. https://doi.org/10.1016/j.elerap.2008.11.006

Lentz, M., Berezan, O., & Raab, C. (2022). Uncovering the relationship between revenue management and hotel loyalty programs. *Journal of Revenue and Pricing Management*, *21*(3), 306–320. https://doi.org/10.1057/s41272-021-00331-0

Loureiro, S. M. C., & Sarmento, E. M. (2018). Enhancing brand equity through emotions and experience: the banking sector. *International Journal of Bank Marketing*, *36*(5), 868–883. https://doi.org/10.1108/IJBM-03-2017-0061

Luo, H., Han, X., & Yu, Y. (2016). The impact of website quality on user loyalty through perceived value and commitment. *2016 13th International Conference on Service Systems and Service Management, ICSSSM 2016*. https://doi.org/10.1109/ICSSSM.2016.7538539

Ma, E., QU, H., & Eliwa, R. A. (2014). Customer Loyalty With Fine Dining: The Moderating Role of Gender. *Journal of Hospitality Marketing and Management*, *23*(5), 513–535.

https://doi.org/10.1080/19368623.2013.835250
Malhotra, N. K. (2015). *Essentials of Marketing Research : A Hands-On Orientation* (Global Edi). Pearson Education Limited.
Melnyk, V., & Bijmolt, T. (2015). The effects of introducing and terminating loyalty programs. *European Journal of Marketing*, *49*(3/4), 398–419. https://doi.org/https://doi.org/10.1108/EJM-12-2012-0694
Melnyk, V., & van Osselaer, S. M. J. (2012). Make me special: Gender differences in consumers' responses to loyalty programs. *Marketing Letters*, *23*(3), 545–559. https://doi.org/10.1007/s11002-011-9160-3
Meulenaere, K. De, Oone, C. B., & Buyl, T. (2015). Unraveling the impact of workforce age diversity on labor productivity: The moderating role of firm size and job security. *Journal of Organizational Behavior*, *37*(2), 193–212. https://doi.org/10.1002/job.2036
Meyer-Waarden, L. (2013). The impact of reward personalisation on frequent flyer programmes' perceived value and loyalty. *Journal of Services Marketing*, *27*(3), 183–194. https://doi.org/10.1108/08876041311330681
Meyer-Waarden, L. (2015). Effects of loyalty program rewards on store loyalty. *Journal of Retailing and Consumer Services*, *24*(C), 22–32. https://doi.org/10.1016/j.jretconser.2015.01.001
Mimouni-Chaabane, A., & Parguel, B. (2025). How to build CSR image with mixed-reward loyalty programs. *Journal of Retailing and Consumer Services*, *87*. https://doi.org/10.1016/j.jretconser.2025.104413
Molinillo, S., Aguilar-Illescas, R., Anaya-Sánchez, R., & Liébana-Cabanillas, F. (2021). Social commerce website design, perceived value and loyalty behavior intentions: The moderating roles of gender, age and frequency of use. *Journal of Retailing and Consumer Services*, *63*(May). https://doi.org/10.1016/j.jretconser.2020.102404
Nastasoiu, A., Bendle, N. T., Bagga, C. K., Vandenbosch, M., & Navarro, S. (2021). Separating customer heterogeneity, points pressure and rewarded behavior to assess a retail loyalty program. *Journal of the Academy of Marketing Science*, *49*(6), 1132–1150. https://doi.org/10.1007/s11747-021-00782-2
Nigatu, A. G., Belete, A. A., & Habtie, G. M. (2023). Effects of automated teller machine service quality on customer satisfaction: Evidence from commercial bank of Ethiopia. *Heliyon*, *9*(8), e19132. https://doi.org/10.1016/j.heliyon.2023.e19132
Omar, N. A., & Musa, R. (2011). Measuring service quality in retail loyalty programmes (LPSQual): Implications for retailers' retention strategies. *International Journal of Retail and Distribution Management*, *39*(10), 759–784. https://doi.org/10.1108/09590551111162257
Omar, N. A., Wel, C. A. C., Aziz, N. A., & Alam, S. S. (2013). Investigating the structural relationship between loyalty programme service quality, satisfaction and loyalty for retail loyalty programmes: Evidence from Malaysia. *Measuring Business Excellence*, *17*(1), 33–50. https://doi.org/10.1108/13683041311311356
Ong, C. H., Pham, B. L., Levasseur, M., Tan, G. R., & Seah, B. (2024). Sex and gender differences in social participation among community-dwelling older adults: a systematic review. In *Frontiers in Public Health* (Vol. 12). Frontiers Media SA. https://doi.org/10.3389/fpubh.2024.1335692
Özkan, P., Süer, S., Keser, İ. K., & Kocakoç, İ. D. (2020). The effect of service quality and customer satisfaction on customer loyalty: The mediation of perceived value of services, corporate image, and corporate reputation. *International Journal of Bank Marketing*, *38*(2), 384–405. https://doi.org/10.1108/IJBM-03-2019-0096
Riquelme, H. E., & Rios, R. E. (2010). The moderating effect of gender in the adoption of mobile banking. *International Journal of Bank Marketing*, *28*(5), 328–341. https://doi.org/10.1108/02652321011064872
Ryu, H. S. (2018). What makes users willing or hesitant to use Fintech?: the moderating effect of user type. *Industrial Management and Data Systems*, *118*(3), 541–569. https://doi.org/10.1108/IMDS-07-2017-0325
Sahoo, D., & S. Pillai, S. (2017). Role of mobile banking servicescape on customer attitude and engagement: An empirical investigation in India. *International Journal of Bank Marketing*, *35*(7), 1113–1130. https://doi.org/10.1108/IJBM-09-2015-0144
Saleem, U., yi, S., Bilal, M., Topor, D. I., & Căpuşneanu, S. (2022). The impact of website quality on customer satisfaction and eWOM in online purchase intention: The moderating role of gender in risk-taking. *Frontiers in Psychology*, *13*(August). https://doi.org/10.3389/fpsyg.2022.945707
Salim, L. (2009). Indonesian Store Loyalty Factors for Modern Retailing Market. *International Journal of Social and Human Sciences*, *3*, 709–716.
Seabrook, J. A. (2025). Powering Nutrition Research: Practical Strategies for Sample Size in Multiple Regression. In *Nutrients* (Vol. 17, Issue 16). Multidisciplinary Digital Publishing Institute (MDPI).

https://doi.org/10.3390/nu17162668

Söderlund, M., & Colliander, J. (2015). Loyalty program rewards and their impact on perceived justice , customer satisfaction , and repatronize intentions. *Journal of Retailing and Consumer Services*, *25*, 47–57. https://doi.org/10.1016/j.jretconser.2015.03.005

Sreejesh, S., Anusree, M. R., & Mitra, A. (2016). Effect of information content and form on customers' attitude and transaction intention in mobile banking: Moderating role of perceived privacy concern. *International Journal of Bank Marketing*, *34*(7), 1092–1113. https://doi.org/10.1108/IJBM-07-2015-0107

Steinhoff, L., & Palmatier, R. W. (2016). Understanding loyalty program effectiveness: managing target and bystander effects. *Journal of the Academy of Marketing Science*, *44*(1), 88–107. https://doi.org/10.1007/s11747-014-0405-6

Stewart, H., & Jürjens, J. (2018). Data security and consumer trust in FinTech innovation in Germany. *Information & Computer Security*, *26*(1), 109–128. https://doi.org/10.18807/jsrs.2017.7.4

Susanto, A., Lee, H., Zo, H., & Ciganek, A. P. (2013). User acceptance of Internet banking in Indonesia: Initial trust formation. *Information Development*, *29*(4), 309–322. https://doi.org/10.1177/0266666912467449

Teeroovengadum, V. (2022). Service quality dimensions as predictors of customer satisfaction and loyalty in the banking industry: moderating effects of gender. *European Business Review*, *34*(1), 1–19. https://doi.org/10.1108/EBR-10-2019-0270

Telli, E., & Aydin, S. (2026). NFT in loyalty programs: customer motivation for reward pursuit. *Journal of Retailing and Consumer Services*, *90*, 104710. https://doi.org/10.1016/j.jretconser.2025.104710

Thach, N. H., Khoi, B. H., Thanh, P. T. K., Thuong, C. T., & Ghi, T. N. (2025). Exploring Customer Loyalty in Vietnam's Digital Banking Industry: Insights from Switching Costs and Alternative Attractiveness. *International Review of Management and Marketing* , *15*(4), 269–280. https://doi.org/10.32479/irmm.18473

Thompson, F. M., & Chmura, T. (2015). Loyalty programs in emerging and developed markets: The impact of cultural values on loyalty program choice. *Journal of International Marketing*, *23*(3), 87–103. https://doi.org/10.1509/jim.14.0125

Timmis, A., Budd, L., & Ison, S. (2025). From frequent flyer programmes to air cargo loyalty schemes: An investigation into the use of loyalty programmes by international cargo airlines. *Transport Economics and Management*, *3*, 192–198. https://doi.org/10.1016/j.team.2025.04.002

Trochim, W. M. K., & Donnelly, J. P. (2008). *The Research Methods Knowledge Base, 3rd Edition*. Atomic Dog/Cengage Learning.

Utz, M., Johanning, S., Roth, T., Bruckner, T., & Strüker, J. (2023). From ambivalence to trust: Using blockchain in customer loyalty programs. *International Journal of Information Management*, *68*(February 2022), 102496. https://doi.org/10.1016/j.ijinfomgt.2022.102496

Vieira, V. A. (2013). Stimuli-organism-response framework: A meta-analytic review in the store environment. *Journal of Business Research*, *66*(9), 1420–1426. https://doi.org/10.1016/j.jbusres.2012.05.009

Xie, Q., Song, W., Peng, X., & Shabbir, M. (2017). Predictors for e-government adoption: integrating TAM, TPB, trust, and perceived risk Introduction. *The Electronic Library*, *35*(1), 2–20. https://doi.org/http://dx.doi.org/10.1108/MRR-09-2015-0216

Yang, M. X., Zeng, K. J., Chan, H., & Yu, I. Y. (2021). Managing loyalty program communications in the digital era: Does culture matter? *Journal of Retailing and Consumer Services*, *60*(January), 102476. https://doi.org/10.1016/j.jretconser.2021.102476

Yen, Y. C., & Chen, S. C. (2025). The Triple Pathway to Loyalty: Understanding How Banks' Corporate Social Responsibility Influences Customers via Moral Identity, Service Quality, and Relationship Quality. *Sustainability (Switzerland)*, *17*(7). https://doi.org/10.3390/su17073220

Yuen, K. F., Wang, X., Wong, Y. D., & Zhou, Q. (2018). The effect of sustainable shipping practices on shippers' loyalty: The mediating role of perceived value, trust and transaction cost. *Transportation Research Part E: Logistics and Transportation Review*, *116*(June), 123–135. https://doi.org/10.1016/j.tre.2018.06.002

Zhao, Q., Chen, C. Der, & Wang, J. L. (2016). The effects of psychological ownership and TAM on social media loyalty: An integrated model. *Telematics and Informatics*, *33*(4), 959–972. https://doi.org/10.1016/j.tele.2016.02.007

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business Research Methods* (Ninth Edition). Cengage Learning. www.cengage.com/permissions