



The Determinants Of Customer Loyalty In The Financial Digital Industry: Bank-Based And Fintech-Based Qris Providers In Indonesia

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ABSTRACT

The Indonesian digital financial system has been transformed through the Quick Response Code Indonesian Standard (QRIS), which has resulted in a homogenized environment with low switching costs. This study examines the factors that evenly contribute to customer loyalty of bank-based and fintech-based QRIS service providers through the Stimulus–Organism–Response (S-O-R) model. A quantitative method has been used in this study whereby the data was collected from 501 active QRIS users (296 from banks and 205 from fintechs). The findings indicate that Perceived Value has the strongest relative impact contribution to both groups. Contrary to previous findings, the findings of this study indicate that Trust acted as a hygiene factor without direct significant influence in this homogenized market environment. This study refutes the dominance of trust in the direct determination of customer loyalty in homogenized digital markets and has a bifurcated strategic roadmap.

INTRODUCTION

The digital payment system in Indonesia has been fundamentally changed with the adoption of the nationwide use of the Quick Response Code Indonesian Standard (QRIS). QRIS was proposed by Bank Indonesia in 2019 and creates a single interoperable standard that unites various payment providers at a single QR code (Bank Indonesia, 2023). This standardization has made users rapidly adopt it to over 57 million users as at 2025 (Bank Indonesia, 2025), but has also created a very strong and ironical competitive landscape.

Standardization of the main functionality has created an ecosystem where technology is hardly differentiated and the switching costs are virtually zero to the consumers (Laukkanen, 2017). As a result, the market is characterized by fierce and unsustainable promotional battles with market share being contested by providers (The Boston Consulting Group, 2023). Ironically, industry statistics indicate that, even though there is extensive multi-homing in the industry, whereby users have more than one payment app, most consumers are loyal to one of their

primary providers when it comes to the majority of their transactions (Snapcart, 2023). This effect forms the major research question: under the condition when switching the provider is easy, what other non-functional factors support the single-brand loyalty?

The competition is also defined between two archetypes of dominant providers. The institutional trust and integration of services is traditionally the key factor of competition of traditional bank-based providers (e.g., BCA, Mandiri, BNI), and user experience, engagement, and promotional value is the key factor of competition of fintech-based providers (e.g., GoPay, OVO, DANA) (PwC Indonesia, 2023; KPMG, 2023). This dichotomy requires a comparative study to explain the variation in the loyalty determinants in these groups.

Therefore, this study has a primary research objective: to identify and comparatively analyze the determinants of customer loyalty for bank-based and fintech-based QRIS providers in Indonesia. Built upon the theoretical foundation of the Stimulus-Organism-Response (S-O-R) model (Mehrabian & Russell, 1974), this research empirically tests a conceptual framework to understand how external stimuli influence internal psychological states, which in turn drive the final behavioral response of Customer Loyalty.

LITERATURE REVIEW

Stimulus-Organism-Response Framework

The S-O-R model, originally proposed by Mehrabian & Russell in 1974, says that stimuli in the environment (S) cause emotional and cognitive states in the organism (O), which then lead to behavioral responses (R).

Stimulus (S)

Promotion Attractiveness defined as how the consumer sees the value of promotional offers. Attractive promotions make people feel like they are losing money and make them feel like they are getting something of value. This includes cash back and discounts in the context of QRIS (Raghubir, Inman, & Grande, 2004; Chandon, Wansink, & Laurent, 2000). Reputation of the brand is the overall opinion of stakeholders about the brand's trustworthiness and dependability, which serves as a sign of quality to lower perceived risk (Fombrun, 1996; Erdem & Swait, 2004). The simplicity of use is an essential factor in the uptake of mobile applications, as it pertains to how much a user perceives that using a particular system would be easy (Davis, 1989; Venkatesh et al., 2003). In Indonesia's collectivist culture, social pressure refers to the impact of social norms and reference groups on an individual's behavior (Ajzen, 1991; Schiffman & Wisenblit, 2019; Venkatesh et al., 2003).

Organism (O)

Trust: Confidence in the reliability and integrity of the provider, often cited as a key success factor in financial services to reduce uncertainty (Morgan & Hunt, 1994; Gefen, Karahanna, & Straub, 2003).

Customer Satisfaction refers to a fulfillment reaction of the consumer following a comparison between anticipations and perceived performance (Oliver, 1997; Kotler & Keller, 2016). Attitude is defined as a learnt tendency to behave in a positively or negatively consistent way to the provider and consists of cognitive, affective, and conative elements (Fishbein and Ajzen, 1975; Solomon, 2020).

Perceived Value is the trade-off between the benefits that one gets and costs (monetary and non-monetary) incurred as one of the main signs of loyalty (Zeithaml, 1988; Kotler and Keller, 2016; Sweeney and Soutar, 2001).

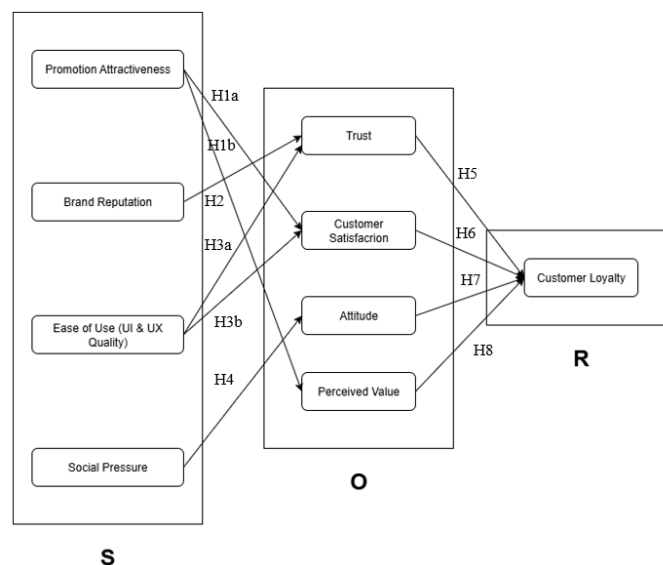
Response (R)

Customer loyalty means a strong dedication to keep buying or using a preferred product or service in the future, despite other things happening or marketing trying to get them to change (Oliver, 1999; Dick & Basu, 1994).

Hypotheses Development

Drawing on the S-O-R framework and a thorough literature review, the subsequent hypotheses are put forward. The conceptual model illustrating these relationships is presented in Figure 1.

Figure 1 S-O-R Framework



H1a: Promotion Attractiveness has a positive effect on Perceived Value.

H1b: Promotion Attractiveness has a positive effect on Customer Satisfaction.

H2: Brand Reputation has a positive effect on Trust.

H3a: Ease of Use has a positive effect on Customer Satisfaction.

H3b: Ease of Use has a positive effect on Trust.

H4: Social Pressure has a positive effect on Attitude.

H5: Trust has a positive effect on Customer Loyalty.

H6: Customer Satisfaction has a positive effect on Customer Loyalty.

H7: Attitude has a positive effect on Customer Loyalty.

H8: Perceived Value has a positive effect on Customer Loyalty.

METHODS

Research Design and Data Collection

The research design adopted in this study is a quantitative, descriptive, and comparative research study. The online survey was conducted in the period between October and November 2025 and had a total of 501 valid responses of active users of QRIS in Indonesia. To be able to conduct a strong comparative analysis, the sample was strategically divided into two groups, which are 296 primary users of bank-based providers and 205 primary users of fintech-based providers.

Measurement and Instrument

The research instrument was a structured questionnaire which was inspired by adapting the popular scales used in the previous studies. There were several questions that assessed each of the constructs using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Sources and indicators were used to operationalize the variables.

Data Analysis Method

Data analysis was performed with the help of a two-step procedure, which is suggested in Partial Least Squares Structural Equation Modeling (PLS-SEM) (Hair et al., 2021). To evaluate measurement model the validity and reliability were first evaluated. Second, the structural model was tested in order to validate the hypothesized relationships. The major method of analysis was Partial Least Squares Structural Equation Modeling (PLS -SEM) used in the SmartPLS software, which was chosen due to its ability to work with complex models and its use in research aimed at prediction. It was necessary to conduct a comparative analysis to resolve the core comparative objective, so a Multi-Group Analysis (MGA) was conducted to determine whether there were significant differences in path coefficients between the bank and fintech user groups.

RESULTS

Descriptive and Measurement Model Assessment (Bank and Fintech)

Table I Descriptive and Measurement Model Assessment

Variables	Initial	BANK				FINTECH			
		Mean	Composite Reliability	Cronbach's Alpha	AVE	Mean	Composite Reliability	Cronbach's Alpha	AVE
Promotion Attractiveness	PA	3.2	0.962	0.948	0.864	3.8	0.893	0.840	0.676
Brand Reputation	BR	4.5	0.871	0.802	0.627	4.09	0.877	0.813	0.641
Ease of Use (UI & UX Quality)	EU	4.6	0.938	0.920	0.717	4.10	0.907	0.877	0.620
Social Pressure	SP	4.1	0.881	0.797	0.711	3.89	0.846	0.730	0.648
Trust	TR	4.4	0.931	0.908	0.731	4.05	0.884	0.836	0.605
Customer Satisfaction	CS	4.4	0.939	0.914	0.795	4.05	0.897	0.816	0.645
Attitude	AT	4.5	0.925	0.893	0.756	4.08	0.892	0.839	0.675
Perceived Value	PV	4.3	0.893	0.821	0.735	4	0.852	0.739	0.658
Customer Loyalty	CL	4.2	0.920	0.885	0.743	3.97	0.862	0.787	0.611

Descriptive analysis shows that the providers of bank-based QRIS have good service basis but struggle with strategic issues in new interaction. Banks are in control of core pillars like Ease of Use (4.60 = Very Good) and Brand Reputation (4.50 = Good) which play a major role in developing Trust (4.40 = Good) and Customer Satisfaction (4.40 = Good). Such scores are indicative of the success that the banks had in developing perceptions of reliability, security, and convenience. Nonetheless, this advantage is not entirely converted into Customer Loyalty (4.20 = Good), which is quite acceptable, but even lower than the previous psychological variable. This gap is directly connected to the most crucial weakness of the banks, which is Promotion Attractiveness (3.20 = Deficient), meaning that promotional practices are not seen as attractive, relevant, and do not contribute to the transformation of the satisfaction into enhanced loyalty.

Fintech-based providers, on the other hand, show an even more dynamic overview but with less consistency of its underlying components. The strength of fintech is mainly Promotion Attractiveness (3.77=Good Enough) with a strong mark higher than that of banks which means that they are able to come up with interesting incentives programs that resonate with their lifestyles. However, fintech is trailing in almost all other areas, such as Ease of Use (4.10 = Good), Brand Reputation (4.09=Good), Trust (4.05=Good) and Customer Satisfaction (4.05=Good). The combination of nice promotions and lesser service bases directly affects their Customer Loyalty level (3.97=Good Enough) that is at the fair level. As a result, the loyalty of fintech users seems to be more transactional and weak, supported by passing incentives and not a deep attachment or the sense of value. Stated differently, fintech has been able to win interest and engagement, but not a base of sustained loyalty that is similar to banks.

The table shows the results of the construct validity test for data from the banking context. This test uses the Average Variance Extracted (AVE) value as an indicator, with a minimum threshold of 0.5 for validity. All research variables Promotion Attractiveness (AVE = 0.864), Brand Reputation (0.627), Ease of Use (0.717), Social Pressure (0.711), Trust (0.731), Customer Satisfaction (0.795), Attitude (0.756), Perceived Value (0.735), and Customer Loyalty (0.743) have AVE values far exceeding the threshold. This demonstrates that all indicators used to measure each variable are valid and consistently represent the intended constructs in this study. This table presents the results of the validity test for research in the fintech context. The test employs the Average Variance Extracted (AVE) value with the same criteria (>0.5) as the banking data. Promotion Attractiveness (0.676), Brand Reputation (0.641), Ease of Use (0.620), Social Pressure (0.648), Trust (0.605), Customer Satisfaction (0.645), Attitude (0.675), Perceived Value (0.658), and Customer Loyalty (0.611) were all deemed "Valid.". Although some AVE values (such as Trust and Customer Loyalty) were relatively close to the minimum threshold of 0.5, all still met the requirements. This indicates that the research instrument for fintech also meets the requirements for convergent validity, although the strength of the relationships between the indicators is, on average, lower than in the banking context.

This table outlines the results of reliability tests for fintech data using two methods: Composite Reliability and Cronbach's Alpha. The commonly used threshold for both measurements is 0.7. As a result, all research variables had Composite Reliability values (between 0.846 and 0.907) and Cronbach's Alpha (between 0.730 and 0.877) above the threshold, thus all were declared "Reliable." The Cronbach's Alpha values for Social Pressure (0.730) and Perceived Value (0.739) were in the acceptable but relatively low category, indicating that the internal consistency of the indicators in these two variables still has room for improvement. Overall, the research instrument for fintech proved reliable and consistent. This table presents the results of the reliability test for data from the banking sector. As in fintech, Composite Reliability and Cronbach's Alpha with a minimum of 0.7 was used to measure reliability. The findings showed that the variables did not only pass the requirements, but also had very high results. The Cronbach's Alpha value was between 0.797 to 0.948 and Composite Reliability was between 0.871 to 0.962. Such high scores indicate excellent levels of consistency and reliability of the scale, especially to such variables as Promotion Attractiveness (Composite Reliability: 0.962, Cronbach's Alpha: 0.948) and Ease of Use (0.938 and 0.920). It can thus be concluded that the questionnaire used to quantify these variables in the banking situation is very reliable.

Hypothesis Testing Bank and Fintech

Table 2 Hypothesis Testing

		Bank		Fintech		
Path	Hypothesis	T-statistics	P-value	Hypothesis	T-statistics	P-value
PA -> PV	H1a*	6.207	0.000	H1a*	5.915	0.0000
PA -> CS	H1b*	2.655	0.008	H1b*	2.522	0.012

BR -> TR	H2*	7.508	0.000	H2*	5.113	0.000
EU -> CS	H3a*	14.631	0.000	H3a*	14.149	0.000
EU -> TR	H3b*	5.208	0.000	H3b*	5.979	0.000
SP -> AT	H4*	8.367	0.000	H4*	10.576	0.000
TR -> CL	H5	1.959	0.050	H5	1.637	0.102
CS -> CL	H6	1.523	0.128	H6*	2.155	0.031
AT -> CL	H7	1.499	0.134	H7*	2.650	0.008
PV - CL	H8*	8.503	0.000	H8*	4.252	0.000

*) Significant

A pattern was identified through hypothesis testing carried out on the banking sector. Among the 10 hypotheses analyzed, six were supported and the rest were rejected. Promotional Attractiveness and Customer Satisfaction had a strong impact on Determinants that were external like Promotional Attractiveness. Brand Reputation was revealed to lead to Trust, whereas Ease of Use was revealed to lead to Customer Satisfaction and Trust. There was also the Social Pressure that exhibited to influence Attitude. On the other hand, the three main hypotheses that Customer Loyalty and Trust have a direct relationship with Customer Satisfaction, and Customer Attitude were rejected. The data indicated that these emotional constructs did not significantly influence loyalty. Instead, the sole and significantly robust predictor of loyalty was Perceived Value, evidenced by a T-statistic of 8.503. These findings underline that, in the banking industry, rational aspects of value, including benefits and costs rather than affective ones, including trust, satisfaction, or attitude, are better predictors of customer loyalty.

Unlike in the banking industry, the test of hypothesis in the fintech sector was mostly supportive of the anticipated relationships. As with banks, Promotional Attractiveness, Brand Image, Ease of Use, and Social Pressure were found to have great influence on the Perceived Value, Social Pleasure, Trust, and Attitude, as well. The major difference was on the antecedents of loyalty. Trust (TR) did not once again affect the loyalty directly (H5 was rejected), and Customer Satisfaction (CS) and Attitude (AT) were found to be the substantial influences of loyalty (H6 and H7 were accepted). In line with the banking results, Perceived Value (PV) still played an influential antecedent of loyalty. Taken together, the above outcomes imply that in the fintech ecosystem, the customer loyalty is developed based on a more equal combination of rational determinants of value (PV) and affective determinants of customer loyalty (CS and AT).

DISCUSSION

The study offers some interesting results that can enrich the marketing theory and practice in standardized digital financial markets. The data analysis of a banking-sector sheds some light on a complicated system of interdependence between various antecedents of a customer loyalty. To begin with, promotional initiatives implemented by banks were observed to be very effective, beautiful promotions yielded a considerable increment in Perceived Value (H1a) and a direct addition to Customer Satisfaction (H1b). Trust was also a critical principle that developed on Brand Reputation (H2). In addition, Customer Satisfaction (H3a) and Trust (H3b) were both empowered by the Ease of Use of the banking system as a power driver. Social Pressure was also confirmed to be a strong force in positive Attitudes towards the bank (H4).

However, an interesting observation was that, although Banks have been successful in developing Trust, Satisfaction, and Positive Attitudes, all the affective constructs did not demonstrate a significant impact on Loyalty. In particular, the statistics showed that Trust (H5), Customer Satisfaction (H6), Attitude (H7), did not have the statistically significant impact on Loyalty. In this way, in the banking background, Loyalty is a compound entity that cannot be explained by affective variables only. The critical antecedent falls on the Perceived Value (H8), as

it was found to be the major and direct factor of Loyalty. The whole process of strategic interventions, that is, promotional activities, Brand Reputation, Ease of Use, to Social Pressure, should therefore eventually lead to the creation of Perceived Value to the consumer. This perceived value is the final driver of long-term customer interaction, the more supporting roles are played by Satisfaction, Trust, and Attitude as a component of the larger Loyalty ecosystem.

Interpretation of the fintech data reveals the trends of the Loyalty creation that stand both in the agreement with the impressive similarities and differences as compared to the traditional banking industry. Digital cashback and voucher programs in promoting Fintech also prove to be effective in increasing Perceived Value (H1a) and directly increasing Customer Satisfaction (H1b), despite having a lower strength. In line with the banking results, Brand Reputation (H2) and Ease of Use remain essential pillars of the model, not only increasing Satisfaction (H3a), but also increasing Trust (H3b) at the same time. Social Pressure (H4) was once again established as a powerful driver in the context of developing positive Attitudes toward fintech platforms.

The main deviation is the pathway of Loyalty antecedent. Contrary to the banking industry, in the context of fintech Customer Satisfaction (H6) and Positive Attitude (H7) latent constructs were found to have strong and direct impacts on Loyalty. Therefore, happy and favourably disposed users are the main contributors to long-term interest. Conversely, Trust (H5) did not influence Loyalty significantly directly, as was the case with banking. Importantly, Perceived Value (H8) was also repeated as a persuasive force behind Loyalty, which also confirms the idea that an ideal value proposition is the key driver to attain fintech customers. In turn, the combination of Satisfaction, Attitude, and Perceived Value is balanced in creating Loyalty in fintech, and Trust plays a supportive, as opposed to causative, role in this process.

Based on the empirical results, gaps found, as well as the results of testing the hypothesis, the following strategic suggestions are proposed to banks and fintech companies with a view to strengthening their competitive position and developing long-term Customer Loyalty.

Promotional Attractiveness Improvement for Bank and Fintech

The most significant conclusion is that H8 is supported without any doubts. Perceived Value turned out to be the strongest and stable overall direct predictor of Customer Loyalty among both bank and fintech users. When the core functionality is the same in the market, the rational calculus of benefits given and costs and efforts incurred by the customer becomes the singular motivation of remaining loyal (Zeithaml, 1988; Yang and Peterson, 2004). This observation changes the strategic orientation of creating alone either satisfaction or trust to creating a powerful and high-value proposition. The lowest score of the descriptive analysis was obtained with bank promotional appeal (3.2/5), which implied that 36.1% of customers were not influenced by the incentives. The existing promotional strategies are still mass-market and generic with no tangible value like a flat cashback or reward point, therefore, they cannot create interest and relevance on an individual level.

The existing methods of promotion are usually one-size-fits-all and they spend their budgets in general without any significant effect. There is no connection between promotions and particular customer transaction behavior, and the redemption rate will be low, and the bank and fintech promotions will be less attractive than the offers on the fintech or e-commerce platforms. Promotional strategies based on behavioural segmentation should be switched to customised and not generic. To calculate the shopping patterns, retailers preferences and the frequency of use, the implementation will require the creation of an analytics system that will analyze transaction data on-the-fly. This solution then implements very sophisticated promotional campaigns.

The Primacy of Perceived Value for Bank

Even though the perceived value is statistically confirmed to be one of the loyalty drivers, there are still friction elements in the user experience of accessing and using QRIS banking services, such as the repetitive and time consuming processes of logging into and authenticating. The value communicated is normally restricted to interest rates or rewards and does not clearly point out the innovations which make the daily financial lives of customers less cumbersome. Consequently, the high security and integration of the bank do not translate to the full extent of internalisation of the competitive advantage that affects loyalty.

The solution to the perceived value and ease of use issues is a facial recognition auto-log-in function. The mobile banking application will allow the customers to look at the phone camera and open the app. It implies that they are not required to carry passwords or PINs.

Facial Recognition to Increase Perceived Value and Ease of Use for Fintech

Although the convenience of use has emerged to be a fintech advantage, the customer experience with the login is a source of discontent. The competitive forces demand that fintechs keep creating more perceived value among the users. Ease of registration and onboarding is the primary feature that fintechs tend to bank their selling points on, without a true focus on making interactions with the system more streamlined, e.g. mobile logins. Value has usually been pegged on the price (cashback, discounts), and not on an excellent user experience.

The adoption of a facial recognition auto-log in as a strategic solution that will meet two key variables that are known to affect loyalty perceived value and ease of use. This aspect makes the experience a frictionless experience. Eliminating the manual process of credentials entry, fintech allows minimizing the psychological and technical barriers to the opening of the application. There are continuous authentication and adaptive interface that ensures that user sessions are stored and interface is always ready to use. Seamless integration with all fintech functionalities will be offered to ensure that the user can instantly engage in transactions or utilize the services without delays, directly addressing the significant impact of user-friendliness on user satisfaction as stated in the hypothesis

CONCLUSION

The results of the present study are the ability to identify the determinants of customer loyalty and differences between banks and fintech providers as they are fundamental to the entire analysis of the QRIS digital payment ecosystem in Indonesia. The key findings of the study will be systematically structured in the following way.

To begin with, the dynamic of QRIS user loyalty is determined by the interplay of many variables in the Stimulus-Organism-Response model. Perceived user value was found to be the most powerful and reliable predictor of loyalty among both bank and fintech users as one of the examined variables. This observation suggests that in the context of standardized payment systems, the rational consideration of benefits and cost versus effort is the main reason why the user will adopt loyalty to provider.

Second, the comparative analysis depicted the fundamental differences in the development of loyalty by the two types of providers. In this case with banks, the principle propelling loyalty is perceived value and the greatest strengths of the banks lie in their strong brand reputation and ease of use in their systems to give customers high rates of trust and satisfaction. However, these strengths do not always result in a high degree of loyalty compared to the tangible perceptions of value. The most critical weaknesses of banks are promotional appeals that are deemed less convincing and cannot offer a strong value proposition.

Third, the research makes an important theoretical implication, the influence of trust on loyalty of either of the provider groups in a low switching cost environment is not a substantial direct effect. The result proves the obsolete relationship-marketing paradigms and implies that

within mature and controlled systems like QRIS, trust has become hygienic element of prerequisite to participation in market, but not a sufficient factor to ensure loyalty.

Essentially, this paper finds that in a standardized digital payments ecosystem, the competition has permanently changed its nature to an experiential and psychological value proposition rather than on functional features. The road to loyalty is not generalized but dichotomous and different strategic approaches are needed between banks and fintechs depending on the strengths and weaknesses of their nature.

LIMITATION

The limitation of this study is the scope of variables under analysis. Although the model constructed has turned out to be robust, the catalogue of customer loyalty determinants that shall be examined in this case study is not comprehensive. Specifically, such variables as the direct effect of social pressure, the effect of technical failures and service outage, or the specifics of transactions related to cross-border QRIS were left unconsidered.

The major weakness of this research lies in its use of semi-structured interview with customers, current practices and data collected using online survey. This data sourcing model is cheap and has a wide audience; however, the method is prone to bias. The respondents might not be accurate about the events or might answer in a way that they perceive to be socially acceptable. There is empirical evidence that the expressed loyalty is not always correlated with actual behaviour.

The study was done in a period of four months, which excludes the possibility of examining the changes in loyalty as time goes by. It is just a single point in time of the market and can ignore some phenomena like seasonal change or the success of marketing campaigns..

SUGGESTION

The theoretical framework should be widened in future research by considering other critical factors in an attempt to acquire an in-depth knowledge. One of the most outstanding is the habit. Habit in daily activities like making regular payments may be one of the main psychological factors that strengthen loyalty, and, therefore, may mediate the connection between the satisfaction, trust, and the actual loyalty behaviour. Moreover, the psychographic and demographic variables as moderators should be tested in order to clarify the form of loyalty differences among the various segments.

The mixed-methods approach is recommended to researchers as a way of synthesising real behavioural data with perceptual data collected in surveys and in such a manner that would counteract the limitations mentioned above and confirm the results. Modern research must integrate questionnaire tools with real behavioural data. By working with QRIS companies to obtain anonymised payment data, the relationships between affective constructs of satisfaction and perceived value and monetary expenditure, purchase frequency and customer lifetime value could be established. Such a plan would minimize bias and give a more solid assessment of loyalty.

Lastly, it is recommended to use longitudinal studies where the same cohort is followed throughout a long period of time (e.g., one to two years). This type of design would expose the development of loyalty, its strengthening or weakening, and the effect of service improvements or changes in the market. This time view would overcome time limits and provide a better insight into the drivers of loyalty in the fundamentally changing world of digital finance.

REFERENCES

- Ajzen, I. 1991. The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2):179–211.
- Bank Indonesia. 2023. *Laporan Perkembangan Sistem Pembayaran Triwulan IV-2023*. Jakarta, Bank Indonesia.
- Bank Indonesia. 2025. *Statistik Sistem Pembayaran 2025*. Jakarta, Bank Indonesia.
- Davis, F.D. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3):319–340.
- Fishbein, M. dan I. Ajzen. 1975. *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Addison-Wesley.
- Fombrun, C.J. 1996. *Reputation: Realizing Value from the Corporate Image*. Harvard Business School Press.
- Hair, J.F., G.T.M. Hult, C.M. Ringle, dan M. Sarstedt. 2021. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications.
- KPMG. 2023. *The Pulse of Fintech*. KPMG International.
- Laukkanen, T. 2017. Mobile banking and consumer behaviour: New insights into the diffusion pattern. *Journal of Financial Services Marketing*, 22(4):179–192.
- Mehrabian, A. dan J.A. Russell. 1974. *An Approach to Environmental Psychology*. The MIT Press.
- Morgan, R.M. dan S.D. Hunt. 1994. The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3):20–38.
- Oliver, R.L. 1997. *Satisfaction: A Behavioral Perspective on the Consumer*. McGraw-Hill.
- Oliver, R.L. 1999. Whence consumer loyalty? *Journal of Marketing*, 63(4_suppl1):33–44.
- PwC Indonesia. 2023. *Indonesia Digital Payments Landscape*. PwC Indonesia.
- Raghubir, P., J.J. Inman, dan H. Grande. 2004. The three faces of consumer promotions. *California Management Review*, 46(4):23–42.
- Snapcart. 2023. *Digital Payment Behavior in Indonesia*. Snapcart.
- The Boston Consulting Group. 2023. *The Future of Digital Payments in Southeast Asia*. BCG.
- Yang, Z. dan R.T. Peterson. 2004. Customer perceived value, satisfaction, and loyalty: The role of switching costs. *Psychology & Marketing*, 21(10):799–822.
- Zeithaml, V.A. 1988. Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing*, 52(3):2–22.