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Understanding Consumer Migration Toward Non-Cash Payment Systems: A Push–Pull–Mooring Perspective

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ABSTRACT
The digital transformation in the financial sector has brought about significant changes in consumer behavior, one of which is the use of non-cash payment systems as a substitute for cash. This study aims to determine the role of perceived value, alternative product attractiveness, and digital literacy variables on consumer switching intentions. Digital literacy is considered to have a moderating role that strengthens the relationship between perceived value and alternative product attractiveness on switching intentions, this also provides a novelty that is expected to be obtained in the study of consumer switching behavior. This study uses a quantitative approach through a survey method. Data were collected from 200 respondents who were encountered incidentally while shopping at retail outlets in the Malang city area. The data collection instrument used was a structured questionnaire with indicators created through a literature review and synthesis of previous research results. Data analysis used Partial Least Squares Structural Equation Modeling (PLS-SEM), by evaluating the measurement and structural models in the study. The results show that perceived value has an influence that can encourage consumers to have switching intentions. On the other hand, the attractiveness of alternative products is also a motivating factor for consumers to switch to using non-cash payment systems, where the stronger the attractiveness of alternative products, the higher the desire to switch. Another finding is that digital literacy is a mooring factor that can strengthen and weaken the relationship between perceived value and alternative attractiveness on the intention to switch. This is a contribution of research results that can provide insight to the business world so that it does not only focus on product sales but also pay attention to the extent to which consumers have sufficient literacy about the technology used in the product. Thus, the results of this study indicate that consumer intention to switch is not only influenced by the value and attractiveness of alternative products, but also there is a role of digital literacy as a reinforcement.

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1. Introduction

The digital transformation of the Indonesian trade system has led to the digitization of payment systems in the trade sector, both at the modern market level and traditional markets. Digital infrastructure has enabled small traders and MSMEs to have

electronic payment features, namely the Quick Response Code Indonesian Standard or commonly abbreviated as QRIS. The migration process from conventional payment systems to the use of electronic money is progressing very quickly, recorded QRIS users in August 2024 were 52.55 million and the number of merchants was 33.77 million (Perbanas.org, n.d.). In migration theory, the shift in consumer behavior in the use of technology is caused by 3 factors, namely the push effect, the pull effect and the mooring effect (Bansal, 2005). Perceived value is a driver for consumers to switch, where the higher the perceived value of the electronic payment system, the stronger the urge to switch (Fahmi, 2023). The attraction of alternative products becomes a magnet that will attract consumers to switch (Fahmi et al., 2018), where the stronger the attraction, the more consumers will have the intention to switch. On the other hand, digital literacy is seen as having an impact on consumer intention to switch (Handarkho & Harjoseputro, 2019), where the better the consumer's literacy regarding the benefits of transactions, the stronger the desire to switch. Digital literacy is the level of consumer understanding obtained from various information received (Kusnandar et al., 2022a). Understanding the level of danger will prevent someone from using technology and choosing conventional methods.

Based on the existing problems, namely: How does perceived value impact the intention to switch to using electronic payment systems? How does the attractiveness of alternative products impact the intention to switch to using electronic payment systems? How does digital literacy impact the intention to switch to using electronic payment systems? And how can digital literacy be a mooring factor that will strengthen or weaken the relationship between perceived value and the attractiveness of alternative products on the intention to switch to using electronic payment systems, thereby being able to resolve problems related to the Rencana Induk Riset Nasional (RIRN) on the theme of economics and human resources with the focus areas of the PRN Social Humanities, Education, Arts and Culture on the topics of entrepreneurship, cooperatives and MSMEs.

Amidst the government's efforts to accelerate economic digitalization across all sectors, this study takes a crucial step in understanding consumer switching behavior, namely the shift from conventional to digital-based systems. By understanding migration behavior, we can identify what drives consumers to switch, what attracts them, and what inhibits them, thus keeping many consumers stuck with conventional systems (Bansal, 2005; Loh et al., 2020). By understanding consumer migration behavior, the government can adopt specific and targeted policies to ensure the success of the program to accelerate Indonesia's digital economic transformation.

Switching behavior has been extensively studied by previous researchers, but many attributed switching barriers to switching costs. Based on this, switching costs are considered a "mooring factor," that is, factors that inhibit or prevent switching. The novelty of this study is that it focuses more on digital literacy issues, where in developing countries like Indonesia, weak digital literacy is a contributing factor to the impediments to several digitalization programs. People who are not digitally literate will find it difficult to migrate or switch to digital platforms. Therefore, researchers try to place digital literacy as a factor that provides a mooring effect on the migration model created.

2. Literature Review

The study of consumer migration in the context of cashless payment system adoption can be explained through the Push–Pull–Mooring (PPM) framework. This model was originally used in human migration studies, then adapted to the realm of consumer behavior to explain why individuals switch from one service to another (Bansal, 2005). According to PPM, migration behavior is influenced by three main components: push factors, pull factors, and mooring factors. Push factors relate to dissatisfaction with current services, pull factors refer to the attractiveness of alternatives, while mooring factors function as inhibitors or facilitators in migration decisions (Krishnan & Raghuram, 2023).

Push–Pull–Mooring (PPM) Theory

PPM is commonly used to explain the phenomenon of consumer migration. Factors that encourage consumers to abandon existing services and switch to new ones are called push factors, while perceived value is one such driving factor known to have a positive effect on switching intentions (Gün, 2024). Factors that attract consumers to switch to other services are called pull factors. The attractiveness of alternative products is one variable often used to represent pull factors because it is thought to influence switching intentions (Chan et al., 2022). In this case, consumers perceive cashless payment systems as more attractive and profitable than previously used services (Loh et al., 2020). Factors that have a mooring effect are called mooring factors, which can weaken or become obstacles to consumer switching intentions. The mooring variable functions as a binding factor for the switching intention variable; in this study, the mooring variable used is digital literacy. Consumers' ability to use digital technology can influence the speed of adaptation to cashless payment systems (Handarkho & Harjoseputro, 2019). The dependent variable in this study is switching intention, which is a consumer's intention to discontinue using an existing product and switch to a cashless payment system (Kim & Son, 2009).

Perceived Value (Push Factor)

Perceived value is defined as the consumer's evaluation of the benefits obtained when compared to the sacrifices made, such as costs paid, time allocation, and effort (Liu, 2021; Ye et al., 2022). In the context of cashless payments, consumers assess whether the service provided can provide convenience, increase efficiency, and guarantee security commensurate with the costs or risks borne (Lin et al., 2017). The lower the perceived value of the product used, the higher the consumer's urge to switch services. Conversely, the higher the value obtained from the product, the more loyal the consumer will be and decide whether to continue using it or not switch (Fahmi et al., 2018)

- **H1:** Perceived value negatively influences switching intention.

Alternative Attractiveness (Pull Factor)

The attractiveness of alternative products explains how consumers perceive other products as more attractive than the product or service they currently use. The attractiveness of alternative products plays a significant role in increasing switching intentions, especially if consumers perceive the features, price, convenience, and quality offered to be superior. In the context of cashless payment systems, various platforms compete to offer higher-level features, equipped with sophisticated security systems and user-friendliness, thus encouraging consumers to have switching intentions (Chan et al., 2022; Liao et al., 2021). Another study found that the attractiveness of alternative products is a common factor found as a reason for someone to switch services (Julaiha et al., 2024; Ye et al., 2022). The presence of attractive competitors and exposure to promotions can encourage switching (Mohd-Any et al., 2024).

- **H2:** Alternative attractiveness has a positive effect on switching intention.

Digital Literacy (Mooring Factor)

Digital literacy is a consumer's ability to understand how to use features and operate digital technology (Kusnandar et al., 2022). In the context of cashless payments, digitally literate consumers are considered more adaptable to new platforms, while also improving their ability to compare, evaluate, and make decisions (Nikou & Aavakare, 2021; Yao & Wang, 2024). Conversely, consumers with low digital literacy tend to stick with legacy services due to their technical limitations (Kabakus et al., 2025; Nguyen et al., 2024). Research shows that digital literacy can not only be a crucial factor in decision-making regarding the use of technology products but is also thought to strengthen or weaken consumers' intentions to switch to other products or services.

- **H3:** Digital literacy moderates the relationship between perceived value and switching intention.
- **H4:** Digital literacy moderates the relationship between alternative attractiveness and switching intention.

Switching Intention

Bansal and Taylor state that switching intention is influenced by several important factors, including push factors, pull factors, and mooring factors. Push factors are defined as things that encourage consumers to switch, such as dissatisfaction and disappointment with the value obtained from a product, especially when compared to the sacrifices made. Pull factors are defined as things that attract consumers to switch. One of these factors is the attractiveness of alternative products, where exposure to promotions that show the superiority of competing products becomes a special attraction for consumers. Mooring factors are defined as things that hinder switching, such as high switching costs, lost time and opportunities, and sacrifices that must be made when having to adapt to a new product. Digital literacy is thought to have a role in strengthening and weakening consumer switching intentions.

Research Hypothesis

Based on theoretical studies and previous research, this research hypothesis is formulated as follows:

- **H1**: Perceived value has a negative effect on switching intention.
- **H2:** Alternative attractiveness has a positive effect on switching intention.
- **H3:** Digital literacy moderates the relationship between perceived value and switching intention.
- **H4:** Digital literacy moderates the relationship between alternative attractiveness and switching intention.

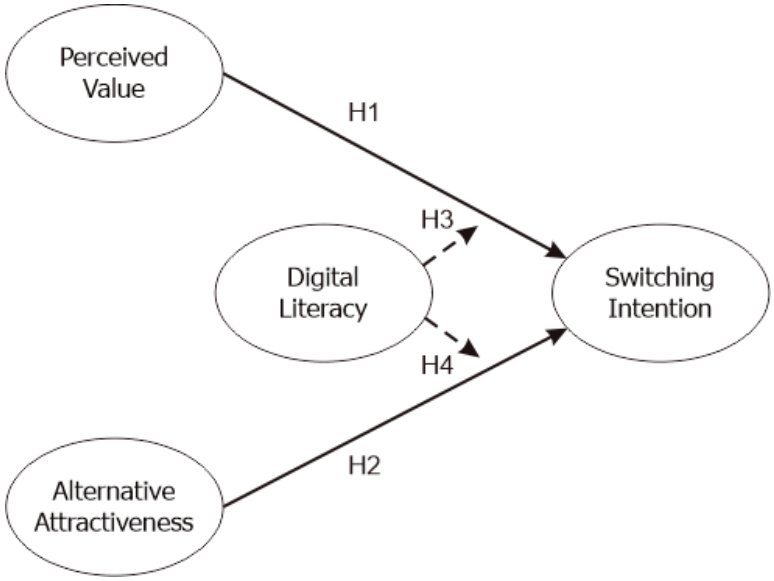

Image 1. Research Model

Indicators and items were developed based on existing constructs to measure the variable in greater detail. Perceived value was measured through four indicators: relative value to cost, perceived benefits, ease of use, and satisfaction with overall value (Fahmi et al., 2018). The attractiveness of alternative products was operationalized through indicators related to benefits, security and reliability, relative advantage, and perceived superiority of alternatives (Chan et al., 2022). Digital literacy was measured through technology use skills, digital security evaluation skills, adaptability to new applications, and problem-solving skills (Kusnandar et al., 2022; Yao & Wang, 2024). Meanwhile, indicators of switching intention included the intention to discontinue using the current service, consideration of switching to another service, propensity to adopt alternatives, and plans and intentions to switch in the future (Liao et al., 2021). Each existing indicator is then reduced to question items in the form of an empirical survey instrument using a Likert scale as a measurement.

Indicators and Item

Table 1. Indicators and measurement used in this study

Variable	Indicator	Item
Perceived Value (PV)	Value vs. Cost	Using the current payment system is not worth the cost.
(Fahmi et al., 2018; Lin et al., 2017; Ye et al., 2022)	Expected Benefits	The benefits I get from the current payment system are less than expected.
	Convenience	The system does not provide sufficient convenience compared to its effort.
	Overall Value	Overall, the value of using the current payment method is unsatisfactory.
Alternative Attractiveness (ATR)	Appealing Benefits	Other non-cash payment systems provide more appealing benefits.
(Chan et al., 2022; Mohd-Any et al., 2024; Ye et al., 2022)	Security & Reliability	Alternative systems offer greater security and reliability.
	Better Advantages	Switching to another payment method would provide better advantages.
	Attractiveness	I find other digital payment options more attractive than my current system.
Digital Literacy (DGT)	Confidence	I can confidently use various digital technologies for payment.
(Nguyen et al., 2024)	Security Evaluation	I am able to evaluate whether digital payment platforms are secure.
	Adaptability	I can adapt quickly to new digital financial applications.
	Problem-Solving	I know how to resolve common problems when using digital services.
Switching Intention (SWT)	Intention to Stop	I intend to stop using my current non-cash payment system.
(Lin et al., 2017; Mohd-Any et al., 2024**)**	Considering Switching	I am considering switching to another payment provider.
	Adoption Likelihood	I am likely to adopt alternative non-cash payment services.
	Future Plan	I plan to discontinue using the current system in the near future.

3. Research Methods

This research used a quantitative approach through a survey method. This method is considered capable of objectively measuring relationships between variables (Hair, 2017). The objective of the study was to examine the influence of perceived value and alternative product attractiveness on consumers' switching intentions to non-cash payment systems. Furthermore, this study measured and analyzed the role of digital literacy variables in strengthening or weakening switching intentions using the Push–Pull–Mooring (PPM) framework. The research design focused on examining causal

relationships between variables. The study population was consumers shopping at retail outlets in Malang City. The research sample was determined using a non-probability technique, where not every member of the population has an equal chance of being selected (Hair, 2017). The sample size was 200 individuals, met incidentally at the research location. Data were collected from June to July 2025 by using a 5-point Likert-based questionnaire. The collected data were then analyzed using Structural Equation Modeling (SEM) based on Partial Least Squares (PLS). This method is considered relevant because it can handle research models with complex latent variables and indicators.

4. Results

The data analysis phase begins with an initial data examination to ensure accuracy, before tabulating the data and identifying errors such as blanks, missing data, or inconsistent answers to questions in the questionnaire. After all data is deemed appropriate, reliability and construct validity tests are conducted to ensure the indicators used can truly measure the intended latent variables. The reference values are Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE). Next, an analysis of the measurement model (outer model) is conducted to assess convergent validity, discriminant validity, and indicator reliability. After the measurement model is declared to meet the criteria, the analysis continues with the structural model (inner model). This stage is carried out to evaluate the relationship between latent variables by considering the path coefficient, R-square, and f-square values. Next, a significance test is conducted using the bootstrapping method. This is done to determine the strength of the influence between variables and support the testing of the research hypothesis. The purpose of this step is to provide a comprehensive overview of the extent to which perceived value and alternative attractiveness influence switching intentions in the context of using cashless payment systems. Another objective is to determine whether digital literacy variables moderate the influence of perceived value and alternative attractiveness on switching intentions. By following this analytical flow, the research results are expected to be methodologically sound and simultaneously support empirical conclusions consistent with the Push-Pull-Mooring (PPM) theoretical framework.

Table 2. Respondent Demographics

Demographics		
Gender	Frequency	Percentage (%)
Female	87	43.5
Male	113	56.5
Age	Frequency	Percentage (%)
<20	45	22.5
20-29	43	21.5
30-40	52	26.0
40-50	39	19.5

>50	21	10,5
Job	Frequency	Percentage (%)
Entrepreneur	55	27.5
Private Employee	40	20.0
Others	38	19.0
Government Employee	35	17.5
Student	32	16.0
Retail	Frequency	Percentage (%)
Traditional Market	44	22.0
Department Store	43	21.5
Hypermart	40	20.0
Mini Market	37	18.5
Supermarket	36	18.0

Number of Respondents = 200

The frequency distribution results at table 2 show that, out of 200 respondents, 113 were female (56.5%) and 87 were male (43.5%). This indicates that the participation of female respondents is more dominant than that of male respondents. In terms of age, the respondent group is dominated by adults, with detailed profiles of respondents based on age <20 years (22.5%), then those aged 20–29 years (21.5%), 30–40 years (26.0%), 40–50 years (19.5%), and over 50 years (10.5%). This distribution reflects that most respondents are in the productive age group, who are generally more familiar with digital payment technology. When viewed from occupation, most respondents are self-employed (27.5%), followed by private employees (20.0%), civil servants (17.5%), students (16.0%), and other categories (19.0%). These findings illustrate that respondents have a fairly diverse range of occupational backgrounds, thus representing the behavior of non-cash payment systems used by various sectors. Meanwhile, regarding shopping locations, respondents most frequently transacted at traditional markets (22.0%) and department stores (21.5%), followed by hypermarkets (20.0%), minimarkets (18.5%), and supermarkets (18.0%). This indicates that despite the increasing popularity of online shopping platforms, traditional markets and brick-and-mortar retail remain consumers' primary choices. This situation suggests that consumers are not solely relying on digital platforms but are also maintaining traditional shopping patterns.

Overall, the frequency distribution of respondents indicates significant variation in demographics and shopping preferences, supporting further analysis of consumer migration behavior in the use of non-cash payment systems.

Outer Model Evaluation

There are two instrument tests that must be conducted: validity and reliability. This research instrument testing is called outer model evaluation. a. Validity Evaluation

The instrument validity evaluation in this study was conducted using convergent validity and discriminant validity tests.

Table 3. Outer Loadings

Construct	Indicators	Outer Loadings
Alternative Attractiveness	ATR_1	0,772
	ATR_2	0,873
	ATR_3	0,800
	ATR_4	0,786
Digital Literacy	DGT_1	0,831
	DGT_2	0,812
	DGT_3	0,842
	DGT_4	0,731
Perceived Value	PV_1	0,844
	PV_2	0,734
	PV_3	0,714
	PV_4	0,768
Switching Intention	SWT_1	0,756
	SWT_2	0,764
	SWT_3	0,840
	SWT_4	0,724

Note: ATR = Alternative Attractiveness, DGT = Digital Literacy, PV = Perceived Value, dan SWT = Switching Intention.

The results of the outer model evaluation at table 3 showed that all indicators had outer loading values above 0.70, thus meeting the convergent validity criteria as recommended by Hair et al. (2019). This indicates that each indicator studied was able to represent the latent variables being measured well. In the perceived value variable, all indicators showed loading values between 0.71 and 0.85, indicating that the aspects of benefits, convenience, and satisfaction with relative value were successfully reflected well. The alternative attractiveness variable also showed consistency with loading values ranging from 0.77 to 0.88, so that indicators related to the attractiveness of benefits, security, and alternative advantages can be empirically accounted for. Meanwhile, indicators in the digital literacy variable obtained loading values of 0.73 to 0.84, confirming that respondents' ability to use and evaluate digital technology has been measured validly. Similarly, the switching intention variable showed loading values of 0.72 to 0.84, thus reflecting respondents' intention to switch from old services to new alternatives with a high level of validity. Thus, all indicators used in this study can be stated as appropriate and valid as measures of the latent constructs studied.

Table 4. Discriminant validity (Fornell-Larcker criterion)

	Alternative Attractiveness	Digital Literacy	Perceived Value	Switching Intention
Alternative Attractiveness	0,809			
Digital Literacy	0,717	0,815		
Perceived Value	0,508	0,465	0,767	
Switching Intention	0,791	0,800	0,622	0,772

In addition to the outer loading value at table 4, reliability and convergent validity were evaluated through Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) measurements. The analysis results showed that all research variables had Cronbach's Alpha values above 0.70, indicating that this research instrument was internally consistent (Nunnally & Bernstein, 1994). The perceived value variable obtained a Cronbach's Alpha value of 0.77, alternative attractiveness of 0.824, digital literacy of 0.822, and switching intention of 0.774, thus each variable met the reliability criteria.

Table 5. Construct reliability and validity

	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)
Alternative Attractiveness	0,824	0,883	0,654
Digital Literacy	0,822	0,880	0,648
Perceived Value	0,765	0,850	0,588
Switching Intention	0,774	0,855	0,597

Meanwhile, based on the results in table 5 the AVE values for all variables were also above 0.50, in accordance with the standards recommended by Fornell and Larcker. Specifically, the AVE value for perceived value was 0.58, alternative attractiveness was 0.65, digital literacy was 0.64, and switching intention was 0.60. This indicates that more than 50% of the indicator variance can be explained by the measured construct. Thus, in terms of both reliability and convergent validity, all variables in this study can be declared suitable for use in the next stage of structural model analysis.

Inner Model Evaluation

The results of the structural model evaluation (inner model) at table 6 are shown through the R-square (R^2) value for the dependent variable, switching intention. Based on the data processing results, the R^2 value obtained was 0.800, which according to (Hair, 2017) criteria is included in the strong category, because it is above the threshold of 0.60. This value indicates that the combination of perceived value, alternative attractiveness, and digital literacy variables is able to explain 80% of the variability in consumers' switching intention in using non-cash payment systems, while the remaining 20% is explained by other factors outside this research model. This finding indicates that the model built is quite good in predicting consumer migration behaviour. Practically, these results confirm that perceived value received, alternative attractiveness, and digital literacy levels are significant determinants and together contribute strongly to consumer switching intentions. Thus, this high R^2 value strengthens the relevance of using the Push–Pull–Mooring (PPM) framework in understanding consumer migration behaviour in the era of digital payment systems.

Table 6. R-square

	R-square	R-square adjusted
Switching Intention	0,800	0,795

In addition to the R-square value, evaluation of the structural model is also carried out through the effect size (f-square) to determine the contribution of each independent variable to the dependent variable of switching intention.

Table 7. Effect Size (f-square)

	Switching Intention
Alternative Attractiveness	0,233
Digital Literacy	0,400
Perceived Value	0,126

Based on the analysis results at table 7, the perceived value variable has an f^2 value of 0.126, which is categorized as moderate according to Cohen's guidelines. This indicates that consumer perception of the value received has a significant influence on switching intentions, although it is not the most dominant factor. The alternative attractiveness variable obtained an f^2 value of 0.23, which is in the large category, so it can be concluded that alternative attractiveness is a strong determining factor in encouraging consumers to migrate to other non-cash payment systems. Meanwhile, the digital literacy variable showed an f^2 value of 0.40, which is in the large category, so it can be concluded that digital literacy is able to explain variations in switching intentions.

Table 8. Path Coefficient

	Path Coefficient	**T Statistic**	**P values**	f**-square**
Alternative Attractiveness -> Switching Intention	0,343	5,685	0,000	0,233
Perceived Value -> Switching Intention	0,195	4,441	0,000	0,126
Digital Literacy x Alternative Attractiveness -> Switching Intention	0,246	0,207	0,008	0,241
Digital Literacy x Perceived Value -> Switching Intention	0,106	2,766	0,013	0,214

The results of the moderation test were conducted to assess the role of digital literacy as a mooring variable moderating the relationship between perceived value and switching intention, as well as between alternative attractiveness and switching intention. Based on the analysis, the interaction between perceived value and digital literacy on switching intention yielded an f^2 value of 0.214, which is in the moderate category. The path coefficient showed a positive coefficient of 0.106 with a significance level of $0.013 < 0.05$. This indicates that digital literacy strengthens the influence of perceived value on consumer switching intention, although the resulting effect is not significant.

Meanwhile, the interaction between alternative attractiveness and digital literacy on switching intention yielded an f^2 value of 0.241, which is in the moderate category. The path coefficient showed a positive result of 0.246 with a significance level of $0.008 < 0.05$. This means that the higher a consumer's digital literacy, the stronger the influence of alternative attractiveness in driving their intention to switch to another non-

cash payment system. Thus, the results of the moderation test confirm the role of digital literacy as a mooring factor that can strengthen the push-pull relationship on switching intention. This aligns with the Push–Pull–Mooring (PPM) perspective, which states that mooring factors not only hinder but can also strengthen consumer migration decisions when consumers possess better digital skills.

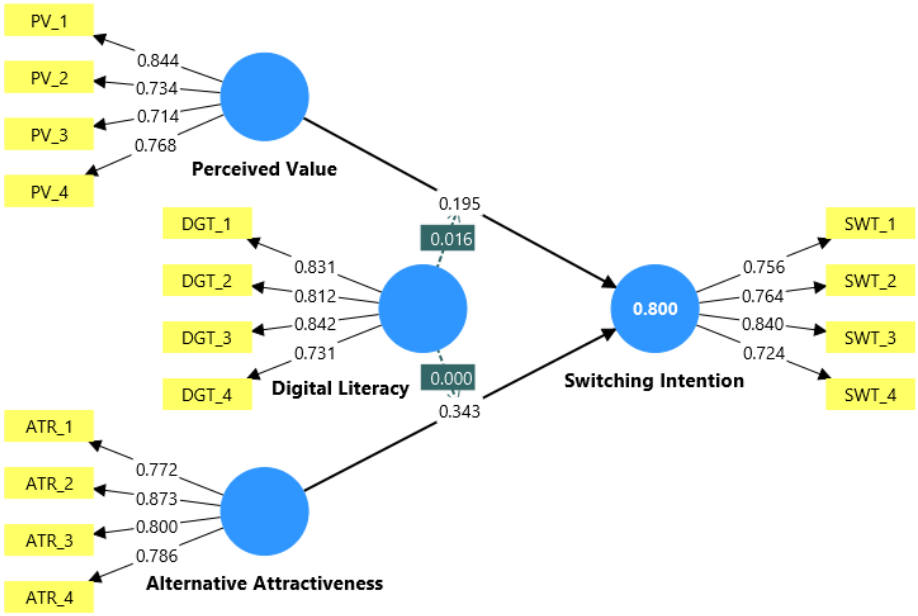

Image 2. Model Analysist

Model Fit Evaluation

The evaluation of the model fit in the PLS-SEM analysis was carried out by examining several key indices, such as the Standardized Root Mean Square Residual (SRMR), the Normed Fit Index (NFI), and the Chi-Square test. The calculation results showed that the SRMR value was 0.054, which is below the threshold of 0.08 recommended by Hair. This indicates that the research model has a good level of fit between the empirical covariance matrix and the predicted covariance. The NFI value obtained was 0.915, which also exceeds the threshold of 0.90, thus strengthening the evidence that this research model is considered fit. Thus, overall, the results of the model fit test indicate that the constructed model structure is suitable for use in testing the relationship between variables (Hair, 2017; Sarstedt et al., 2021).

Table 9. Model Fit

	Saturated model
SRMR	0,054
NFI	0,915
Chi-square	887,739

In addition, Goodness of Fit (GoF) is calculated as a global measure that represents the combined validity of the measurement model (outer model) and the structural model (inner model).

Table 10. Result of the GOF calculation

	AVE	R Square
Alternative Attractiveness	0,654	
Perceived Value	0,588	
Switching Intention	0,597	0,800
Average	0,613	0,800

Goodness and Fit (GOF):

GOF = $\sqrt{mean(AVE) x\ mean(R^2)}$
GOF = $\sqrt{0{,}615\ x\ 0{,}800}$
GOF = $\sqrt{4904}$
GOF = 0,700

The GoF value in this study was 0.700, which is in the large category, because it exceeds the threshold of 0.36 as proposed by Tenenhaus. This value indicates that the model has a high level of feasibility in explaining the phenomenon of consumer switching intention towards the use of non-cash payment systems. Thus, both the results of the model fit test and the GoF test indicate that the Push–Pull–Mooring (PPM) framework applied in this study has not only theoretical support but also strong empirical validity.

Overall, these values indicate that the model built meets the model fit criteria (good model fit) to explain consumer migration behavior in using non-cash payment systems.

5. Discussion

• Perceived Value and Switching Intention

The analysis shows that perceived value has a significant negative effect on switching intention in the context of using cashless payment systems. This confirms that the lower the value consumers perceive for the product they use, the higher their tendency to switch from cash to cashless payment systems. This aligns with previous findings, which also stated that perceived value is a key determinant in shaping consumers' decisions to switch to new services or products (Liu, 2021; Ye et al., 2022). Furthermore, research by Yang and Singh & Chan (2022) supports this finding by confirming that consumers who perceive a system as having superior value compared to other alternatives are more likely to have switching intention (Chan et al., 2022). The values in question encompass ease of use, security, convenience, benefits, and cost efficiency. Thus, increased perceived value in the context of

cashless payments is a key factor in driving consumer migration behavior (Fahmi et al., 2018).

• Alternative Attractiveness and Switching Intention

The analysis shows that the attractiveness of alternative products has a significant positive effect on switching intention in the use of cashless payment systems. This means that the more attractive the alternative products offered by cashless service providers, the higher the consumer's tendency to switch. This finding aligns with consumer migration theory, which emphasizes that the attractiveness of alternatives is a pull factor that encourages individuals to switch to more attractive and more beneficial options (Bansal, 2005; Mohd-Any et al., 2024) Previous research also shows that the attractiveness of more innovative and valuable competitors can accelerate the consumer switching process (Chan et al., 2022; Julaiha et al., 2024). In the context of this study, the presence of various additional features offered by other products, such as payment integration through applications, reward points, and loyalty programs, strengthens the attractiveness of cashless systems compared to cash transactions. Therefore, these results reinforce the understanding that service providers need to continue developing features and benefits that can increase the attractiveness of alternatives, thereby accelerating consumer adoption and loyalty to digital payment systems.

• Digital Literacy and Switching Intention

The study results show that digital literacy plays a positive and significant role in influencing consumers' switching intentions to use cashless payment systems. Consumers with higher levels of digital literacy tend to prioritize additional features such as security, ease of managing transactions independently, technological sophistication, and other features, making them more likely to switch from cash to cashless payments. This aligns with the view of (Nikou & Aavakare, 2021; Yao & Wang, 2024), who stated that digital literacy enables someone to utilize technology effectively. Furthermore, these findings support the study by Kusnandar et al. (2022) showed that users' comfort, ease, and skill levels in interacting with technology directly impact their intention to adopt new digital services. In this context, digital literacy not only increases perceived ease of use but also strengthens trust in the security of cashless systems, ultimately encouraging consumers to migrate to digital payment methods (Kusnandar et al., 2022b; Nguyen et al., 2024)

The study also revealed that digital literacy plays a mooring role, acting as a moderating variable, significantly strengthening or weakening the relationship between push and pull factors on switching intentions. Mooring factors reflect psychological, social, and situational barriers that can prevent consumers from persisting with their existing payment methods, even when they are aware of the strong benefits and attractiveness of alternatives to cashless products. This finding aligns with the consumer migration model developed by Bansal, Taylor, and St. James (2005), which explains that mooring factors can function as a binder that reduces the tendency to switch. The results indicate that the moderating effect plays

a significant role, particularly in the context of the influence of perceived value and the attractiveness of alternatives on switching intentions. This suggests that consumers with low levels of digital literacy have high resistance to change, due to their emotional or habitual attachment to cash payments. This condition will tend to delay or even reject migration to cashless systems, even when they are aware of their benefits and attractiveness.

6. Conclusion

This study aims to understand consumer migration behavior towards the use of cashless payment systems using the Push-Pull-Mooring (PPM) perspective. Based on the analysis, it can be concluded that perceived value, alternative attractiveness, and digital literacy have a significant influence on consumer switching intentions. This confirms that the lower the perceived benefit value of the product currently being used, the more it will encourage consumers to switch to using cashless payment systems. On the other hand, the more attractive the alternative services offered, and the higher the digital literacy possessed by consumers, the stronger their tendency to switch from cash to cashless payments. The mooring factor acts as a moderating variable that influences the strength of the relationship between push and pull factors and switching intentions. The presence of mooring indicates that although consumers are aware of the benefits and attractiveness of cashless systems, the existence of psychological, social, and habitual barriers can still slow the migration process. These results are in line with the PPM theory which emphasizes the importance of considering these three dimensions in explaining consumer migration behavior. Practically, this study implies that cashless payment service providers need to increase the perceived value and benefits for consumers, be vigilant and cautious about the attractiveness of competing products offering innovative features, and be able to encourage digital literacy in the community to accelerate adoption. Furthermore, strategic efforts should also be directed at reducing barriers, for example through education, increased security, and financial behavior change campaigns. Therefore, the results of this study not only provide theoretical contributions to the development of the PPM model in the context of digital payments but also have practical relevance for stakeholders in driving the transformation towards a cashless society and can fill existing research gaps.

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