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FACTORS INFLUENCING CONSUMERS' RESISTANCE TOWARDS PROPERTY RENTAL PAYMENTS IN PROPTECH APPS

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ABSTRACT

Proptech applications are experiencing growth and popularity as technological advancements transform how people search for and pay for rental accommodations. Despite the increasing adoption of these apps, a gap exists between users who used these apps for searches and those who make rental payments through them. This study investigates the reasons behind resistance to using the payment functionalities of proptech apps among users who have adopted the search features but not the payment feature. To explore this, the study employs Innovation Resistance Theory (IRT), mixed with variables from UTAUT2. Previous research showed that various barriers can influence user resistance to app payments. A mixed-methods approach is used in this research, combining qualitative preliminary testing and quantitative main testing. The study adopts convenience sampling to gather data. Data were collected through questionnaire and analyzed using Multiple Linear Regression Analysis in SPSS 27.0. The findings reveal that three main barriers—Risk, Tradition, and Image—significantly influence users from making payments through proptech apps. The Risk Barrier pertains to concerns over security and privacy. The Tradition Barrier involves users' preference for conventional method ways over alternatives. The Image Barrier relates to the perception of the app's reputation and trustworthiness. Future research recommendation include conducting discriminant analysis to compare non-adopters of proptech app payments distinct groups, incorporate demographic elements such as age, income, and gender as moderating variables and including additional independent variables that can expand the research scope. This study contributes to the existing literature by addressing user resistance to increase the adoption of digital payment functionalities in proptech applications. The findings can help app developers and marketers design better strategies to overcome these barriers and promote wider acceptance of proptech app payments.

KEYWORDS *Proptech, Innovation Resistance Theory, Digital Payments, Technology Adoption, Rental Accommodations.*

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INTRODUCTION

The shift to the digital age is expanding at a rapid pace. The growth of the internet and mobile applications has greatly impacted this shift. A vast number of users rely on mobile apps for added convenience in meeting their requirements. Advancements in technology have empowered consumers to access services wherever they need them. In light of these swift technological progressions, nearly every industry are adjusting to the current emerging digital trends to fulfill consumer needs.

The emergence of mobile applications has transformed the business environment in various industries, such as food services, fitness (Verma, Chakraborty, & Verma, 2023), ticketing services (Chen, Chang, & Hsiao, 2022), and healthcare. Many business companies are earning revenue using mobile applications (Islam, Islam, & Mazumder, 2010), including the property Industry.

Digital applications are becoming increasingly important in facilitating housing markets and activities, generating revenue from data for information and services instead of just the physical properties. Proptech, which is based on the acronym for property and technology, provides innovative services to the property industry (Baum, 2017). Proptech assists landlords, buyers, and sellers in improving property experiences. Many start-up companies in proptech currently offer digitized platforms to increase the transaction process (Oluwatofunmi, Kolawole, & Hahn, 2021) This includes Indonesia.

The property industry in Indonesia has attracted considerable interest in recent times, as seen from the increasing growth of property technology startups or proptech within the market. The rise of proptech in Indonesia is due to the home ownership backlog figure which is still high, reaching 12.71 million based on BPS data. Apart from that, Indonesia's population will reach 278.69 million people in 2023 so the need for housing will remain. Several notable startups companies in Indonesia includes Pinhome, Travelio, Rukita, Mamikos, Cove, Cohive, Tanaku, 99.co, Rumah123.com, Lamudi.co. id and others. These proptech companies have been categorized based on the services they offer. Sales Platforms, Rental Platforms, Property Management and Customization, Financing Services, and Tech-Driven Construction.

Proptech as a rental app, not only is profitable for companies, but also it could assist landlords in improving property transaction journeys. In Indonesia, proptech helps businesses of property rental for monthly to yearly to flourish by listing them on their apps. Several proptech companies which provides monthly to yearly rental listing services to landlords in Indonesia includes Mamikos (rooms and apartment), Travelio (rooms, apartments, houses, villas, and others), Rukita (room and apartments) Cove (rooms and apartments), Cari-kos.com (rooms) and others.

The demand for monthly to yearly room rental in Indonesia is increasing. Many students are vying to pursue further education in different cities, while others have recently graduated and are embarking on their careers in major Indonesian urban centers (EDITYORINI, 2022). With the increasing urbanization to cities, demand for room rentals are also on the rise. It’s becoming challenging for students and young professionals to find suitable accommodation within their budget. The

competition for affordable and well-located rentals has pushed individuals to explore alternative housing options such as shared apartments, co-living spaces, and boarding houses. Proptech apps for property rentals have provided more convenience in searching for the right place to live. The digitalization of business operations has enabled the service industry to adopt advanced transactional methods for property-related activities, thereby enhancing consumer satisfaction (Oluwatofumi & Hahn, 2021). Despite the benefits, some consumers are hesitant to embrace new advancement in property transactions due to the lack of trust (Papadimitropoulos, 2021).

Technological innovations are influenced by consumer' motivations and resistance, which can either promote or hinder their spread and adoption (Kulviwat, Bruner II, & Al-Shuridah, 2009). While some consumers of this app are motivated by the need to find the accommodation that suits them, there has been a trend where consumers are still reluctant to complete the transaction within the app and opt to do the transaction outside the app. Understanding the factors that contribute to this reluctance is crucial for the advancement of proptech applications and the satisfaction of consumer needs.

Despite the convenience offered by mobile-based Proptech platforms, many consumers in Indonesia still prefer to conduct payments outside of these apps, often due to negative experiences or a lack of trust. This presents a challenge for Proptech companies, as understanding and addressing consumer reluctance is crucial for the continued success and adoption of these platforms. Research into the factors influencing consumer behavior is necessary to improve the user experience and ensure the growth of the Proptech industry.

This study focuses on understanding consumer resistance to transactions through Proptech mobile applications in the Jabodetabek region of Indonesia. By concentrating on this specific area, the research aims to provide a detailed and contextualized understanding of local consumer behavior, making the findings particularly relevant to stakeholders in Jabodetabek. However, the study has several limitations, including the potential lack of applicability to other regions due to cultural and market differences, a relatively small sample size that may not fully represent the broader population, and a restricted timeframe that limited the depth of data collection. Additionally, the study focuses exclusively on mobile applications, excluding Proptech websites, due to the growing preference for mobile usage among consumers in Jabodetabek, which offers greater convenience and aligns with current trends in consumer behavior.

RESEARCH METHOD

This study uses a quantitative research design, focusing on testing hypotheses and validating theories through empirical data collection. The nature of the research is descriptive, aimed at identifying obstacles that prevent certain consumers from using Proptech apps for transactions (Malhotra, 2020). The study employs a cross-sectional design, meaning data is collected at a single point in time to analyze the variables of interest.

The research methodology for data collection is meticulously outlined to address the study's research questions, test hypotheses, and evaluate results.

sampling design is discussed in detail, covering the target population, sample size, sampling elements, location, period, frame, and techniques (Sovacool, Axsen, & Sorrell, 2018). The target population for this study consists of individuals in Jabodetabek who have used proptech apps for medium to long-term rental searches. A sample size of 300 has been determined, based on previous literature, to ensure statistical reliability (Al Mufadda, Fannani, Alturki, & Rohmah, 2020). The sampling elements focus on Indonesian consumers aged 18 to 60 years old who are accustomed to using smartphones and the internet for transactions (Taherdoost, 2021). The research employs a non-probability sampling technique, specifically convenience sampling, due to the ease of accessing respondents through the Populix survey platform (Zhang & Fuller, 2021).

The research instrument, primarily a questionnaire, is designed in three sections: screening questions, demographic questions, and experience-related questions (Oladugba, Ossai, & Umanah, 2016). To ensure the reliability and validity of the questionnaire, a pilot test was conducted with 30 respondents from the target population. The results showed high reliability, with Cronbach's Alpha values exceeding the acceptable threshold, and all questionnaire items were validated as effective measures of the intended constructs.

In this research, data analysis involves transforming raw data into meaningful insights using IBM SPSS software version 27. The data processing starts with rigorous data checking to eliminate inconsistencies and high variance, followed by encoding responses into numerical codes for statistical analysis. Descriptive analysis will summarize demographic details and central tendencies, while validity and reliability tests ensure the accuracy and consistency of the questionnaire. Classical assumption analysis, including multicollinearity and heteroscedasticity tests, will verify that the data meets regression analysis requirements. Normality is assessed using kurtosis, skewness, and the Kolmogorov-Smirnov test. Inferential analysis, including Pearson Correlation and Multiple Linear Regression, will examine relationships between variables and test hypotheses, with the latter employed to predict the impact of independent variables on the dependent variable, "Innovation Resistance."

RESULT AND DISCUSSION

Analysis

Response Rate

A total of 300 questionnaires were randomly distributed to target respondents that are currently living in Jabodetabek. However, Only 262 questionnaires were completed and after thorough checking, only 241 questionnaires could be used for further analysis. Due to this, the response rate of the questionnaire is down from 87.33% to 80.33%. According to Livingston and Wislar (2012), the response rate is considered acceptable as it is suggested that a 60% was an acceptable level. The data collected from the 241 questionnaires was then processed using SPSS statistical software in order to generate final conclusions.

Descriptive Analysis

The descriptive analysis revealed detailed demographic insights. The sample consisted of 36.9% male and 63.1% female respondents. Age-wise, 42.3% were

between 18-24 years old, and 31.1% were between 25-30 years old, showing a predominance of younger respondents. In terms of education, 42.3% held a bachelor's degree, followed by 35.7% with senior high school education. Regarding occupation, the majority were full-time employees, either permanent (26.1%) or on contract (24.1%), while 18.3% were active students.

Monthly expenditure data showed that 22.8% of respondents spent between Rp. 3,000,001 and Rp. 5,000,000, and 21.6% spent between Rp. 5,000,001 and Rp. 7,500,000. For app usage, 28.6% used apps for transactions often (6-10 times a month), and 28.2% did so occasionally (3-5 times a month). Among proptech apps for accommodation searches, Mamikos was the most popular, used by 72.6% of respondents, followed by Travelio at 43.1%.

Finally, the place of residence data indicated that 62.7% of respondents lived in Jakarta, significantly more than other locations such as Tangerang (12.0%) and Bekasi (10.4%). This highlights Jakarta's strong representation in the sample compared to other cities in the region.

Central Tendency

Central Tendency of Usage Barrier (UB)

The Usage Barrier (UB) variable's central tendency was analyzed, revealing a generally consistent response pattern. Respondents expressed mild disagreement with negative statements regarding the ease, convenience, adaptability, and payment features of proptech apps. The mean scores ranged from 4.79 to 4.91, with UB2 having the highest mean, indicating that proptech apps are perceived as convenient to use. All items had a mode of 5, suggesting a common response of "somewhat disagree" to the negatively framed statements.

Central Tendency of Value Barrier (VB)

The Value Barrier (VB) variable showed respondents' perceptions of the utility of proptech apps. The mean scores ranged from 4.25 to 4.48, with VB2 indicating the highest level of agreement that proptech apps help save time in the rental transaction process. The mode for all items was 4, reflecting a general agreement with the positive aspects of proptech apps. However, the scores also showed a slight inclination toward disagreeing with the statements, indicating a somewhat neutral stance on the value proposition of these apps.

Central Tendency of Risk Barrier (RB)

The Risk Barrier (RB) variable highlighted concerns regarding the reliability and security of proptech apps. The mean scores were consistently high, ranging from 5.68 to 5.86, with RB5 reflecting the highest concern about refund issues. The mode scores ranged from 6 to 7, indicating a strong agreement with the risk-related concerns, suggesting that respondents are worried about inaccurate information, data security, and potential payment errors when using proptech apps.

Central Tendency of Tradition Barrier (TB)

The Tradition Barrier (TB) variable reflected respondents' preference for traditional interactions in rental transactions. The mean scores ranged from 5.68 to

5.71, with TB3 showing the highest need for negotiation with managers before making payments. The consistent mode score of 6 across all items indicates a strong agreement with the necessity of direct communication, inspection, and negotiation, highlighting a significant preference for traditional methods over digital transactions.

Central Tendency of Image Barrier (IB)

The Image Barrier (IB) variable focused on respondents' perceptions of the reputation and trustworthiness of proptech apps. Mean scores ranged from 5.29 to 5.42, with IB4 showing the highest level of doubt about the success of transactions via these apps. The mode scores were mostly 5, except for IB3, which had a mode of 6, suggesting a strong agreement with negative views. This indicates that respondents generally perceive proptech apps as untrustworthy and have reservations about their effectiveness.

Central Tendency of Social Influence (SI)

The Social Influence (SI) variable examined the impact of others' opinions on respondents' use of proptech apps. The mean scores ranged from 2.90 to 3.04, with SI4 having the highest score, reflecting a somewhat neutral stance on the influence of peers and significant others. The mode scores varied, with most items having a mode of 4, except SI4, which had a mode of 3, indicating that respondents were not strongly swayed by social influences regarding the use of proptech apps.

Central Tendency of Facilitating Conditions (FC)

The Facilitating Conditions (FC) variable assessed the external factors supporting the use of proptech apps. The mean scores ranged from 5.51 to 5.80, with FC2 indicating the highest satisfaction with internet connectivity as a facilitating condition. Mode scores showed varied responses, with FC1 and FC2 having a mode of 7, suggesting strong agreement that the necessary conditions for using proptech apps are met. This indicates that respondents generally feel well-equipped to use these applications, with adequate devices, internet access, and guidance.

Central Tendency of Innovation Resistance (IR)

The Innovation Resistance (IR) variable explored the reluctance to adopt proptech apps for rental payments. The mean scores ranged from 5.36 to 5.45, with IR4 suggesting a willingness to consider using the apps in the future. The mode scores were mostly 4, except for IR4, which had a mode of 5, indicating a general neutral or somewhat agreeable stance on resistance to innovation. This reflects a moderate level of resistance to adopting proptech applications for rental transactions.

Reliability Analysis

Table 1. Reliability Test

Variables	No of Items	Cronbach's Alpha	Level of Reliability
Usage Barrier (UB)	4	0.923	Very good reliability
Value Barrier (VB)	3	0.900	Very good reliability
Risk Barrier (RB)	5	0.894	Very good reliability
Tradition Barrier (TB)	3	0.895	Very good reliability
Image Barrier (IB)	4	0.891	Very good reliability
Social Influence (SI)	4	0.924	Very good reliability
Facilitating Conditions (FC)	4	0.901	Very good reliability
Innovation Resistance (IR)	3	0.884	Very good reliability

Source : Data Processing Using SPSS 27.0, 2024

Table 1 indicates the reliability of the measures used in the main research. Cronbach's Alpha value of at least 0.7 is considered acceptable for reliability. The analysis reveals that the Cronbach's Alpha for all the variables exceeds 0.8, suggesting that the variables employed in the research are highly reliable. Furthermore, the variable with the highest reliability is Social Influence, with an alpha value of 0.924, while the variable with the lowest reliability is Innovation Resistance, with an alpha value of 0.884. These findings demonstrate that all the variables exhibit very good reliability, ensuring the consistency of the items in measuring the underlying constructs.

Confirmatory Factor Analysis

The Confirmatory Factor Analysis (CFA) results shown all items have high factor loadings, well above the commonly accepted threshold of 0.7, demonstrating strong convergent validity for the constructs. This suggests that the measured items are highly representative of their respective underlying factors, confirming that the measurement model is well-specified and that the constructs are reliably measured by their associated items. The results confirm that each item's grouping is correct, as all items load strongly onto their intended constructs. This validates that the measurement model is well-specified and that the constructs are reliably measured by their associated items.

Classical Assumption Analysis

Multicollinearity Test

The results of the multicollinearity test for various variables using Tolerance and Variance Inflation Factor (VIF) values. The tolerance values for all variables range from 0.776 to 0.925, and the VIF values range from 1.081 to 1.288. Since all tolerance values are above 0.1 and all VIF values are below 10, there is no indication of multicollinearity among the variables. This means that the independent variables do not exhibit high correlations with each other, ensuring the reliability of the

regression analysis and confirming that multicollinearity is not a concern in this research.

Heteroscedascity Test

The results of the heteroscedasticity test for the relationship between various independent variables and the dependent variable, Innovation Resistance, using P-P plots and scatter plots. The P-P plots for all independent variables (Usage Barrier, Value Barrier, Risk Barrier, Tradition Barrier, Image Barrier, Social Influence, and Facilitating Conditions) display points that closely follow the diagonal line. This indicates that the residuals are approximately normally distributed, supporting the assumption of normality.

The scatterplots of standardized residuals versus standardized predicted values for all independent variables do not show any clear pattern of shotgun blast or funnel shape. This suggests that the variance of the residuals is constant across all levels of the predicted values, indicating no evidence of heteroscedasticity. The results from the P-P plots and scatterplots suggest that the assumptions of normality and homoscedasticity are satisfied for the regression model. The residuals are normally distributed and exhibit constant variance, which supports the validity of the regression analysis for these independent variables in predicting Innovation Resistance.

Normality Test

The results of the Skewness and Kurtosis tests for various items. Skewness values range from -0.480 to 0.766, and Kurtosis values range from -1.285 to 0.188. According to the normality rule, skewness values between ±2 indicate that the data is approximately symmetrical, and kurtosis values between ±7 indicate that the data has a relatively normal distribution in terms of peakedness (Hau, 2016). Most items in the table exhibit skewness and kurtosis values within these ranges, suggesting that the data is normally distributed for these items. For example, items such as FC2 with a skewness of 0.766 and kurtosis of 0.099, though slightly positively skewed and relatively flat, still fall within the acceptable ranges. Predominantly, the skewness and kurtosis tests suggest that the data does not significantly deviate from normality.

Table 2. One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		241
Normal Parameters	Mean	.0000000
	Std. Deviation	2.65527649
Most Extreme Differences	Absolute	0.48
	Positive	0.35
	Negative	-.048
Test Statistics		.048
Asymp. Syg. (2-Tailed)		.200

Source : Data Processing Using SPSS 27.0, 2024

Table 2 presents the findings of the one-sample Kolmogorov-Smirnov test conducted to assess the normality of the unstandardized residuals. The results show that the mean of the residuals is .0000000, and the standard deviation is 2.65527649. The test evaluates the maximum differences between the observed and expected cumulative probabilities, revealing absolute, positive, and negative discrepancies of 0.48, 0.35, and -0.048. The test statistic is .048, and the asymptotic significance value is .200. Given that this p-value exceeds the 0.05 significance level, the analysis indicates that the residuals are normally distributed, thereby supporting the assumption of normality.

Inferential Analysis

Pearson Correlation Coefficient Analysis

Table 3. Pearson Correlation Coefficient Test

Variables	UB	VB	RB	TB	IB	SI	FC	IR (DV)
UB	1							
VB	0.391	1						
RB	-0.082	0.014	1					
TB	-0.044	-0.005	0.383	1				
IB	0.096	-0.054	0.240	0.259	1			
SI	-0.062	0.115	0.202	0.059	0.083	1		
FC	0.284	0.215	-0.211	-0.117	-0.065	-0.122	1	
IR (DV)	0.083	0.089	0.275	0.282	0.309	0.097	0.041	1

Source : Data Processing Using SPSS 27.0, 2024

The Pearson correlation analysis presented in Table 3 reveals that the correlation coefficients between the independent variables range from -0.082 to 0.391, indicating a small but definite relationship among them. Specifically, the highest correlation is observed between usage barriers (UB) and value barriers (VB), suggesting a moderate relationship between these two variables. Furthermore, the dependent variable, Innovation Resistance, exhibits low to

moderate positive correlations with the independent variables, such as technological barriers (TB) and financial constraints (FC). These findings indicate that changes in the independent variables are associated with changes in the dependent variable, although the relationships are generally weak.

Multiple Linear Regression Analysis

Table 4. Model Summary

Model	R	R Square	Adjusted R Square
1	0.425	0.180	0.156

Source : Data Processing Using SPSS 27.0, 2024

Based on Hair (2017), R^2 values of 0.75, 0.50, and 0.25 for endogenous latent variables in the structural model indicate that the model is good, moderate, and weak, respectively. According to Table 4.21, the R^2 value for the model is 0.180, and the adjusted R^2 value is 0.156. This indicates that the model is weak in explaining the variance in the dependent variable, Innovation Resistance (IR). Therefore, it can be stated that the independent variables (Usage Barrier, Value Barrier, Risk Barrier, Tradition Barrier, Image Barrier, Social Influence, and Facilitating Conditions) have a small effect on Innovation Resistance in this study. This suggests that while there is some level of relationship, the explanatory power of these independent variables on the dependent variable is limited.

Table 5. Anova

Model	F Statistics	Sig.
1	7.324	<.001

Source : Data Processing Using SPSS 27.0, 2024

The ANOVA analysis reveals that the regression model is statistically significant ($p < 0.001$), indicating that the independent variables collectively have a meaningful impact on the dependent variable, Innovation Resistance. Despite the relatively low R-squared value, which suggests the model does not explain a sizable proportion of the variance in the dependent variable, the model's ability to explain the variance is still considered significant, as evidenced by the F-statistic and associated p-value. This suggests the model as a whole is useful for predicting the dependent variable, even though it does not account for a substantial portion of the variance.

Table 6. Multiple Linear Regression Test Result

Model		Unstandardized Coefficients		T-test	P-Value	Significant or Insignificant
		B	Std. Error			
1	(Constant)	3.715	1.851	2.007	0.046	-
	Usage_Barrier	0.023	0.048	0.512	0.609	Insignificant
	Value_Barrier	0.051	0.061	0.926	0.355	Insignificant
	Risk_Barrier	0.124	0.049	2.518	0.012	Significant

Tradition_Barrier	0.174	0.068	2.577	0.011	Significant
Image_Barrier	0.185	0.051	3.598	<.001	Significant
Social_Influence	0.026	0.041	.644	0.520	Insignificant
Facilitating Conditions	0.086	0.093	1.449	0.149	Insignificant

*Dependent Variable = Innovation Resistance
Source : Data Processing Using SPSS 27.0, 2024

Table 6 shows the Multiple Linear Regression test results for Innovation Resistance as the dependent variable. The regression analysis indicates that out of the independent variables tested, Risk Barrier (B = 0.124, p = 0.012), Tradition Barrier (B = 0.174, p = 0.011), and Image Barrier (B = 0.185, p < 0.001) have a significant effect on Innovation Resistance, as their p-values are less than the alpha value of 0.05. The constant term also shows significance (B = 3.715, p = 0.046). However, Usage Barrier (B = 0.023, p = 0.609), Value Barrier (B = 0.051, p = 0.355), Social Influence (B = 0.026, p = 0.520), and Facilitating Conditions (B = 0.086, p = 0.149) do not have a significant effect, as their p-values are greater than 0.05. The result shows that despite some barriers significantly influencing innovation resistance, others do not. The significant variables highlight areas that might need addressing to reduce resistance to completing payment in proptech applications.

Table 7. Multiple Linear Equation

Multiple Linear Equation	
IR = 3.715 + 0.023 (Usage Barrier) + 0.051 (Value Barrier) + 0.124 (Risk Barrier) + 0.174 (Tradition Barrier) + 0.185 (Image Barrier) + 0.026 (Social Influence) + 0.086 (Facilitating Conditions) + e	
Explanation	
UB = β1 = +0.023 (Usage Barrier)	There is a positive relationship between Usage Barrier and proptech apps payment resistance among Jabodetabek consumers. If the UB increases by 1 unit, the proptech apps payment resistance will increase by 0.023 units.
VB = β1 = +0.051 (Value Barrier)	There is a positive relationship between Value Barrier and proptech apps payment resistance among Jabodetabek consumers. If the VB increases by 1 unit, the proptech apps payment resistance will increase by 0.51 units.
RB = β1 = +0.124 (Risk Barrier)	There is a positive relationship between Risk Barrier and proptech apps payment resistance among Jabodetabek consumers. If the RB increases by 1 unit,

	the proptech apps payment resistance will increase by 0.124 units.
TB = β1 = +0.174 (Tradition Barrier)	There is a positive relationship between Tradition Barrier and proptech apps payment resistance among Jabodetabek consumers. If the TB increases by 1 unit, the proptech apps payment resistance will increase by 0.174 units.
IB = β1 = +0.185 (Image Barrier)	There is a positive relationship between Image Barrier and proptech apps payment resistance among Jabodetabek consumers. If the IB increases by 1 unit, the proptech apps payment resistance will increase by 0.185 units.
SI = β1 = +0.026 (Social Influence)	There is a positive relationship between Social Influence Barrier and proptech apps payment resistance among Jabodetabek consumers. If the SI increases by 1 unit, the proptech apps payment resistance will increase by 0.026 units.
FC = β1 = +0.086 (Facilitating Conditions)	There is a positive relationship between Facilitating Conditions Barrier and proptech apps payment resistance among Jabodetabek consumers. If the FC increases by 1 unit, the proptech apps payment resistance will increase by 0.086 units.

Source : Data Processing Using SPSS 27.0, 2024

Hypothesis Testing

Table 8. Summary of Hypothesis

Hypothesis	P-Value	Accepted/Rejected	Reason
H1: Usage Barrier (UB) has a significant influence on consumers' resistance towards proptech app payments	0.609	Rejected	P-value > 0.05
H2: Value Barrier (VB) has a significant influence on consumers' resistance towards proptech app payments	0.355	Rejected	P-value > 0.05
H3: Risk Barrier (RB) has a significant influence on consumers'	0.012	Accepted	P-value < 0.05

resistance towards proptech app payments			
H4: Tradition Barrier (RB) has a significant influence on consumers' resistance towards proptech app payments	0.011	Accepted	P-value < 0.05
H5: Image Barrier (IB) has a significant influence on consumers' resistance towards proptech app payments	<.001	Accepted	P-value < 0.05
H6: Social Influence (SI) has a significant influence on consumers' resistance towards proptech app payments	0.520	Rejected	P-value > 0.05
H7: Facilitating Conditions (FC) has a significant influence on consumers' resistance towards proptech app payments	0.149	Rejected	P-value > 0.05

Source : Data Processing Using SPSS 27.0, 2024

Discussions on the Result

The findings regarding the verification of the hypotheses examined in this study are summarized in Table IV.25, with a detailed analysis provided in the next sections. The results indicate that the risk, tradition, and image barriers are statistically significant, while the usage, value, social influence, and facilitating conditions barriers are found to be non-significant.

Nonsignificant Usage Barrier and Proptech Payment Resistance

H1: Usage Barrier (UB) has a significant influence on consumers' resistance towards proptech app payments

Based on the result of P Value > 0,05, the hypothesis for Usage Barrier (UB) was rejected. Usage Barrier has a positive relationship, but not significantly influencing the proptech apps payment resistance. These findings are consistent with previous studies conducted by Softina et al., (2022); Purwanto et al., (2021); Nel & Boshoff, (2021), and Istanto et al., (2022); and also refutes the findings on other studies conducted in different contexts, includes Leong et al., (2020); Kautish et al., (2023), and Khanra et al., (2021).

This shows that kos payments using the proptech applications are not perceived as easy, comfortable, or adaptable to various situations. However, this does not significantly influence consumer behavior resistance. This is mainly because the payment methods through proptech applications are essentially similar to other e-payments and the commonly used short-term accommodation rental apps.

In the Indonesian context, especially in Jabodetabek, consumers are already familiar with digital payment systems. The widespread adoption of e-wallets and online banking facilitates a smoother transition to using proptech apps for kos payments. Consumers recognize the convenience of conducting payment in a proptech platform, which connects with their existing digital payment habits. Therefore, while there might be some usability challenges, these do not significantly affect consumers from using proptech apps for kos payments. The familiarity and ease of digital transactions in other areas of their lives mitigate any potential resistance.

Nonsignificant Value Barrier and Proptech Payment Resistance

H2: Value Barrier (VB) has a significant influence on consumers' resistance towards proptech app payments

Based on the result of P Value > 0,05, the hypothesis for Value Barrier (VB) was rejected. Although Value Barrier has a positive relationship, it does not significantly influence proptech app payment resistance among Indonesian consumers living in Jabodetabek. These findings are consistent with previous studies by Hossain (2023) and Khanra et al., (2021). However, they contradict findings from other studies conducted in different contexts, such as those by Moorthy et al., (2017); Laukkanen (2016); and Lian & Yen (2013).

The analysis shows that while customers may not see much extra value in using proptech apps for kos payments compared to other payment methods, this doesn't really stop them from using these apps. This is mainly because proptech apps fit well with how people already use digital payment systems. Since mobile rental apps and online banking are already common, people are used to the convenience and efficiency of digital transactions. This makes it easy for them to start using proptech apps, since the value these apps offer isn't significantly different from other mobile apps payment options. The convenience of doing transactions on a proptech platform matches what people are already used to. Even if proptech payments don't have unique extra benefits, the convenience and smooth experience still get people to use them for kos payments. The time-saving aspect also helps reduce any resistance. While these advantages may not be super noticeable, they don't create big barriers either. The comfort people have with digital payments in general helps cancel out any worry about the lack of added value. Although there may be some value barrier, it is relatively not a significant problem due to how widely accepted and used digital payments are now. The ease and familiarity of digital finance helps stop any significant resistance to using proptech apps for payments, even if the apps don't offer standout extra value.

Positive Significant Risk Barrier and Proptech Payments Resistance

H3: Risk Barrier (RB) has a significant influence on consumers' resistance towards proptech app payments

Based on the result, the hypothesis for Risk Barrier (RB) was accepted in this study since P-Value < 0.05. Therefore, it is statistically proven that the Risk Barrier is significantly affecting the Proptech Payments Resistance. This result agrees with previous empirical study done by Hau (2016); Chen et al., (2018); and Kaur et al.,

(2020). However, the result disagrees with other studies conducted by Lee & Kim, (2022) and Lian & Yen, (2013).

The research shows that worries about potential risks have a huge impact on people's resistance to using proptech apps for rental payments. These concerns mainly involve the accuracy of information following rental rules, data security, possible payment mistakes, and refund policies. In general, the respondents are cautious about adopting new tech for relatively high in budget and sensitive transactions like monthly rental payments. If people think the app might give wrong details about rental properties, they're less likely to trust and use these platforms. Data security is also important, many respondents fret about proptech apps keeping their personal info safe during transactions, given all the data breaches cases lately, especially in Indonesia. There are concerns the app didn't give or update accurate rental rules, leading to disputes later on. The chance of payment errors is a also major barrier. People worry mistakes could cost them money, making them hesitant to rely on these apps. Refund policies also play a key role. If people think they can't get a refund if needed, that boosts their resistance. In addressing these risk factors by ensuring accurate info, solid data security, clear rental rules, reliable payments, and transparent refunds can help lower resistance and increase adoption of these proptech payment apps.

Positive Significant Tradition Barrier and Proptech Payments Resistance

H4: Tradition Barrier (UB) has a significant influence on consumers' resistance towards proptech app payments

Based on the result, the hypothesis for Tradition Barrier (TB) was accepted in this study since P-Value < 0.05. Therefore, it is statistically proven that the Tradition Barrier is significantly affecting the Proptech Payments Resistance. This finding is consistent with other empirical study done by Lee & Kim (2022); Hossain (2023); Laukkanen (2016) and Leong et al., (2020). However, the result disagree with other studies conducted by Kaur et al., (2021) and Khanra et al., (2021).

Many consumers prefer direct communication with the property manager to ensure transparency and address any queries or concerns prior to completing a payment transaction. This preference for personal interaction suggests a reliance on conventional transactional methods, which generates resistance towards adopting proptech applications. Also, consumers desire the ability to physically inspect the property to verify its condition before committing to a rental agreement. This traditional approach of personal verification contributes to resistance against utilizing digital platforms for property management payments, where such in-person inspections are typically infeasible. The capacity to negotiate terms directly with the property manager is also highly valued by consumers. The negotiation process is perceived as more effective and reassuring when conducted in person or through personal chat, leading to resistance against digital platforms that do not facilitate such direct interactions. In conclusion, the Tradition Barrier significantly influences consumers' resistance to adopting proptech payment applications. Reducing these concerns by integrating features that emulate the personal

interaction, inspection, and negotiation aspects of traditional methods can help reduce resistance and promote the adoption of proptech payment solutions.

Positive Significant Image Barrier and Proptech Transaction Resistance

H5: Image Barrier (IB) has a significant influence on consumers' resistance towards proptech app payments

Based on the result, the hypothesis for Image Barrier (IB) was accepted in this study since P-Value < 0.05. Because of this, it is concluded that Image Barrier is significantly affecting the Proptech Payments Resistance. This finding is similar with other research conducted by Hau, (2016); Moorthy et al., (2017); Jansukpum & Kettem (2015) and Purwanto et al., (2021). Nevertheless, the result contradicts with other studies conducted by Lian & Yen (2013) and Chen et al., (2018).

The analysis shows that people's negative views of proptech apps play a part in why respondents who don't want to use these platforms for kos payments. Respondents have an overall negative impression of proptech apps, which is a major roadblock to them using these apps. People find proptech apps hard to use for transactions with kos managers, and this makes them even more reluctant to switch from traditional methods to digital ones. Trust is another big issue, as many believe they can't trust transactions through proptech apps. This lack of trust in the reliability and security of proptech payments further deters users. Lastly, doubts about the success of payments through proptech apps contribute to their hesitation, as people aren't sure how efficient and effective these platforms are at ensuring successful payments. Image Barrier has a huge impact on people's resistance to proptech app payments. Improving the user experience, building trust, and showing the reliability and success of payments could help reduce this resistance and encourage more people to adopt proptech payment apps.

Nonsignificant Social Influence and Proptech Transaction Resistance

H6: Social Influence (SI) has a significant influence on consumers' resistance towards proptech app payments

Based on the result of P Value > 0,05, the hypothesis for Social Influence (SI) was rejected. Social Influence has a positive relationship, but not significantly influencing the proptech apps payment resistance. These findings are consistent with previous studies conducted by Softina et al., (2022) and Chu, (2023), and inconsistent with other studies by Chung & Liang (2020); Kim & Bae (2020) and Nastjuk et al., (2020). Social influence does not have a significant impact on innovation resistance. While social influence is present and positively related to proptech app adoption, it does not significantly impact consumers' resistance to using these apps for kos payments. This suggests that other factors, such as individual preferences and concerns, may play a more critical role in shaping consumer behavior in this context. The moderate level of negative social influence indicated by suggests that while there is some social resistance, it is not a dominant factor in preventing the use of proptech apps.

Nonsignificant Facilitating Conditions and Proptech Transaction Resistance

H7: Facilitating Conditions (FC) has a significant influence on consumers' resistance towards proptech app payments

Based on the result of P Value > 0,05, the hypothesis for Facilitating Conditions (FC) was rejected. Facilitating Conditions has a positive relationship, but not significantly influencing the proptech apps payment resistance. These findings are inconsistent with previous study conducted by Hossain, (2023) and Kim & Bae, (2020).

In the context of Jabodetabek, these findings suggest that while there may be concerns about the adequacy of facilitating conditions such as devices, internet connectivity, and guidance, these factors do not play a crucial role in their decision to resist using proptech apps for kos payments. This could be due to the widespread availability of smartphones and internet services in urban areas like Jabodetabek, which mitigates the impact of these facilitating conditions on resistance. In conclusion, although facilitating conditions have a positive relationship with the use of proptech apps, they do not significantly impact consumers' resistance to adopting these platforms for kos payments.

CONCLUSION

This research explores the relationship between barriers to adopting proptech applications for kos payments and consumer resistance in Indonesia. The study identifies risk, tradition, and image barriers as significant factors influencing consumer reluctance to use these apps. Insights from Jabodetabek residents highlight these barriers' impact on their willingness to adopt proptech apps. The findings suggest specific strategies for developers to overcome these barriers, including enhancing data security, offering direct communication features, and launching awareness campaigns to improve the apps' perception.

The study also provides theoretical and managerial implications. It contributes to the academic understanding of consumer resistance to mobile application-driven services, particularly in the Indonesian market, and offers a framework for future research on innovation resistance. The study suggests practical strategies for proptech app developers to increase user adoption, such as implementing robust verification processes, developing virtual property tours, and addressing negative perceptions through transparent communication.

Additionally, the research acknowledges its limitations, including a narrow focus on proptech apps and a specific geographical area. It recommends future studies to consider a broader range of proptech platforms, explore additional barriers, and conduct research in diverse regions to capture varying cultural and economic contexts. A larger and more diverse sample size is also suggested to enhance the generalizability of the findings. This comprehensive approach will provide deeper insights into consumer resistance and help developers design more effective strategies to promote the adoption of proptech applications.

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