Factors Toward Risk Influencing Millennials Willingness to Invest in Peer-to-Peer Lending

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Abstract

The objective of this study is to analyze the factors influencing the risk perception that affects millennials' willingness to invest in P2P lending. To achieve this goal, a conceptual model was developed involving variables such as financial literacy, company reputation, information security awareness, risk perception, and intention to invest. The sample consisted of 220 respondents, and data were collected through a questionnaire. Structural Equation Modeling and SmartPLS Statistical Software were used to examine the data. The study's results suggest that, while financial literacy does not significantly affect risk perception, firm reputation and information security knowledge do. The findings also demonstrate that risk perception has a major impact on the intention to invest. The implications of this research highlight the importance of reputation and information security in shaping risk perception in the fintech sector. Fintech companies should prioritize building a strong reputation through good service, transparency, and authentic communication, as well as implementing robust cybersecurity measures to protect investor data. Financial practitioners also need to educate investors about risks and emphasize the importance of reputation and information security in decision-making, providing guidance in risk assessment and management aligned with investors' goals and risk tolerance.

Keywords: *Financial Literacy, Company Reputation, Information Security Awareness, Risk Perception, Intention to Invest.*

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A. INTRODUCTION

Indonesia has a positive trend regarding technological developments related to finance. Numerous public financial technology (fintech) users and the increase in smartphone usage over the past year provide evidence of this technology's explosive expansion. According to statistical data from Bank Indonesia (BI), the volume of fintech transactions has also increased. Fintech transactions were US$18.65 billion (Rp 251.78 trillion) in 2017, a 24.17% increase from US$15.02 billion in 2016. (Rp 202.77 trillion). This figure will continue to increase to US 37.15 billion in 2022 with a 2017-2021 Compound Annual Growth Rate (CAGR) of 18.8% (Sinambela, 2020). Due to the commercial prospects presented by this reality, Indonesia has a tremendous chance to improve its financial industry through technological platforms and mobile applications. However, this is accompanied by risks to the security of mobile applications that are growing swiftly, which is a concern for Fintech users and innovators (Stewart & Jürjens, 2018).

According to Diana et al. (2020), there is a phenomenon of millennials who have the intention of their financial behaviour changing from manual transactions into cashless transactions, including Fintech payments. Referring to Goldstein et al. (2019), "fintech" is a combination of finance and technology, for example, Peer-to-Peer

investment. Technology will continue to impact the financial services industry as it evolves, changing how it works (Bruggink & Mouilleron, 2017).

Based on statistical data released by the Otoritas Jasa Keuangan (OJK), the total of licensed fintech registered is 102 as of April 22, 2022. Geographically, the location of Jakarta is an area that has the highest number of transactions compared to other regions. According to OJK data, the number of lender transactions (account units) in Jakarta in August 2022 totalled 227,507,427 transactions an increase of 72% compared to data for the August 2021 period of 131,946,778 transactions, and an increase of 252% compared to data for the August 2020 period, namely as many as 64,583,565. Even the data as of August 2022 covers 94.59% of total national transactions (Amelia, 2019).

Arias-Oliva et al. (2019) discovered that financial literacy can influence investment decisions. For proper planning and managing finances to achieve prosperity, financial literacy has become a life skill. It means investors will recognize the risk perception if they recognize the company's credibility. The company's credibility has a significant impact on consumer perception of risk. It means investors will recognize the risk perception if they recognize the company's credibility. Baghani and Sedaghat (2016) and Sindhu and Kumar (2014) stated that risk perception has a significant impact on investing decisions. Investors' perceptions of risk are undoubtedly different.

This study aims to examine the variables affecting millennials' perceptions of risk perception and intent to engage in P2P lending. The study aims to analyze the relationship between financial literacy, company reputation, information security awareness, risk perception, and intention to invest. The study will utilize quantitative research methods, including survey data collection, statistical analysis, and regression modeling, to fully understand the factors that affect risk perception and intention to invest.

Understanding and using financial principles in daily life is known as financial literacy (Servon and Kaestner, 2008). According to Hograrth and Hilgert (2002), financial literacy is understanding and applying fundamental financial ideas to plan and manage one's financial actions. Remund (2010) argued that financial literacy, like the ability to make sound short-term decisions, make long-term financial plans, keep an eye on economic events, and manage finances, is a human resource to financial concepts and is a measure of comprehension of conditions. Financial literacy encompasses financial knowledge and awareness and their application to business and daily life (Carpena et al., 2019; Huston, 2010).

Information accessibility influences customer decisions (Ghasemaghaei & Hassanein, 2016). According to Horne et al. (2016), knowledge security is a process in which individuals and organizations try consciously or subconsciously to convert information into sustainable resources. Users conclude that the website cannot be trusted if they feel the platform has no security for their financial transactions and personal information (Urban et al., 2000). Peer-to-Peer platforms must prioritize security because the amount traded is almost always substantial. Referring to Urban et al. (2000), Peer-to-Peer platforms must correctly inform consumers that they employ

cutting-edge technology to protect the security of their transactions and personal data to win their trust.

According to Ainia et al. (2019), an investor's decision-making ability is influenced by his or her perception of risk. Risk perception describes how an individual evaluates and forms an image based on incoming information. Typically, this differs from actuality, thoughts, and estimations. Risks that must be addressed because of uncertainty and opportunity loss in pursuing the service's expected benefits are known as perceived risks (Featherman & Pavlou, 2003). Referring to Ferreira (2018), the risk perceptions from different people are influenced by the financial models they use to depict perceived risks. Users' main barrier to using FinTech is their perception of risk (Ryu, 2018).

Intention is the driving force influencing efforts to carry out actions (Ajzen, 1991). Moreover, given the right time and opportunity, intent as a controller of action will manifest in various ways. Until the right decision is made, intention becomes behavior. Consistency in targets, actions, situations, and timing is required for behavioral goals. According to Sashikala and Chitramani (2018), investment decisions are influenced by motivating factors and the investor's willingness to take action.

B. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

According to Jonsson et al. (2017), financial literacy can assist investors in overcoming discriminatory behavior. According to Putri and Rahyuda (2017), financial literacy's impact is closely related to how each investor chooses to allocate their investments. Higher financial literacy influences investment interest by improving investment decision-making. According to Schmeiser and Seligman (2012), increasing financial literacy can cause fluctuations in wealth. Researchers and policymakers have closely examined the relationship between financial literacy and financial risk-taking (for example, stock market participation) (Hermansson & Jonsson, 2021).

H_1: Financial literacy has an influence on risk perception.

A company's reputation, based on perceptions of its effectiveness, is believed to enhance investor response to the risks of investing in a company. It is anticipated that the company's reputation, determined by how effectively it is perceived, will increase investors' aversion to the risk of investing in the business. A positive company reputation benefits a wide range of stakeholders (Tischer & Hildebrandt, 2014). A positive reputation might suggest a degree of trust in financial applications (Ong and Chan, 2016).

H_2: Company reputation has an influence on risk perception.

Information security risks encompass the impact on an organization and its stakeholders resulting from threats and vulnerabilities related to the operation and usage of information systems and the operating environment (Zhang et al., 2010). Data security can indirectly ensure risk reduction. The more information a company stores, manages, and shares, the greater the risk of data corruption, loss, or unwanted outside exposure. Indirectly, information security ensures business continuity and reduces

emerging risks. Puriwigati (2020) defined information security as arising from various threats to provide company continuity, reduce business risks, and enhance investment and commercial prospects.

H_3.: Information Security has an influence on risk perception.

An individual's willingness to take risks affects their financial investments. Financial assets are distinguished by various types of expected returns as well as various risks. The instruments that the individuals are more familiar with and comprehend are less risky (Wang et al., 2014). According to Ainia and Lutfi (2019), the higher your risk perception, the less likely you are to invest, and vice versa.

H_4: Risk perception has an influence on the intention to invest.

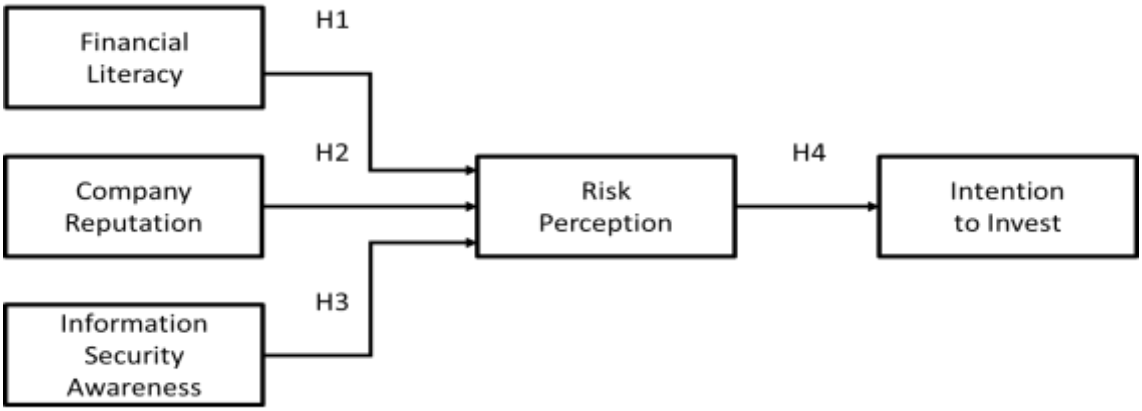

Figure 1. Research Framework

C. METHOD

The study will employ questionnaires to measure several independent variables, including financial literacy, corporate reputation, and information security risk, with the mediating variable being risk perception and the dependent variable being investment intentions. The financial literacy variable will be measured using a section consisting of 5 items to assess participants' objective knowledge, which is relevant to the study's aim (Shehata et al., 2021). Company reputation will be evaluated using a section containing 4 items adapted from Sipangkar & Wijaya (2020). Information security will be measured using a section containing 5 items adapted from Tran & Nguyen (2022), where participants will rate their level of agreement on information security risks. Risk perception will be evaluated using three questions based on specific conditions (Tran & Nguyen, 2022) with 3 items. The intentions to invest variable will be assessed using 4 items adapted from Sipangkar & Wijaya (2020). The questionnaire is divided into three sections. The first section is filter questions, asking about their experienced ever used Peer-to-Peer investment. Second section asks about the respondent's demography. The last part is the main questionnaire which asks the 21 items from five variables. A five-point Likert scale will be employed to gauge each item in the survey, ranging from strongly disagree to strongly agree.

Table 1 will display the variables to be used in this research, along with the indicators for each variable and source.

Table 1 Variable Measurement

Variable	Indicator	Scale	Source
Financial Literacy (FL)	• FL1: I understand terminology in finance (for example: interest rate, financial cost, and loan tenure). • FL2: I understand about credit ratings. • FL3: I am capable of managing finances related to investments. • FL4: I am skilled in investing my money. • FL5: I am proficient in reading investment income reports.	• Likert Scale 5 Point	• Shehata et al. (2021)
Company Reputation (CR)	• CR1: The P2P Lending platforms I know are large companies. • CR2: The P2P Lending platforms I'm aware of are highly renowned companies. • CR3: The P2P Lending platforms I know of have a good reputation. • CR4: The popularity of P2P Lending platforms affects user perceptions.	• Likert Scale 5 Point	• Sipangkar & Wijaya, 2020
Information Security (IS)	• IS1: P2P Lending platforms have sufficient online privacy. • IS2: P2P Lending platforms can maintain information security that prevents me from suffering financial losses. • IS3: Financial transactions on P2P Lending platforms are protected by top-notch security mechanisms. • IS4: Investment transactions through P2P Lending platforms are secure. • IS5: P2P Lending platforms can handle issues related to hackers.	• Likert Scale 5 Point	• Tran & Nguyen, 2022
Risk Perception (RP)	• RP1: Investing through P2P Lending platforms can lead to a loss of privacy. • RP2: Investing through P2P Lending platforms may not yield the expected returns. • RP3: Investing through P2P Lending platforms can lead to financial losses (financial risk).	• Likert Scale 5 Point	• Tran & Nguyen, 2022; Sipangkar & Wijaya, 2020
Intention to Invest (ITI)	• ITI1: I am interested in investing across all P2P Lending platforms.	• Likert Scale	• Sipangkar & Wijaya, 2020

	• ITI2: I am interested in investing only in specific P2P Lending platforms. • ITI3: There is a possibility for me to invest through P2P Lending platforms in the near future. • ITI4: If given the opportunity, I intend to invest through P2P Lending platforms.	5 Point	

This study targets millennials aged between 24 and 39 who reside in Jakarta and have not invested in Peer-to-Peer investments. Data were gathered quantitatively using convenience sampling from 220 eligible respondents who responded to an online questionnaire. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used as the research method. According to Hair et al. (2011), PLS-SEM helps to analyze latent variables and observable indicators in limited sample sizes compared to the traditional Covariance Based SEM (CB-SEM)

D. RESULTS AND DISCUSSION

The questionnaire obtained 220 respondents who fit the criteria; their profiles are shown in Table 2. The majority of the 220 survey participants were female (55.5%) and had bachelor's degrees (79.0%), indicating that they belonged to the younger adult and educated S1 demographic. According to their occupation, most are private employees (72.7%) with monthly incomes above Rp 20 million by 28.6%. These respondent profiles are relevant to the purpose of this study, analyzing financial literacy, company reputation, and the relationship of information security to risk perception and intention to invest.

Table 2. Respondent Profile

Gender	Female		Male									
	122	55.50%	98	44.50%								
Age	24 - 29 years		30 - 34 years		35 - 39 years							
	78	35.50%	72	32.70%	70	31.80%						
Education	High school or equivalent		Diploma 1/2/3		Bachelor		Masters		Doctoral			
	10	4.60%	8	3.70%	174	79.00%	26	11.80%	2	0.90%		
Work	Private Sector employee		State Owned Enterprise employee		Self-employed		Professional (doctor/lawyer/etc.)		Student		Housewife	
	160	72,7%	23	10.50%	25	11.30%	7	3.20%	3	1.40%	2	0.90%
Income	< Rp. 5 million		Rp. 5 until 10 million		> Rp. 10 until 15 million		> Rp. 15 until 20 million		> Rp. 20 million			
	15	6.80%	59	26.80%	38	17,3%	45	20,5%	63	28,6%		

Outer Loading, Composite Reliability & AVE

This research makes use of an outer reflective model that incorporates a reliability indicator (outer loading), construct reliability (Cronbach's alpha and

composite reliability), construct validity (Average Variance Extracted-AVE), and discriminant validity (Heterotrait-Monotrait Ratio). 18 indicators were discovered to fulfill the requirements for external loading during the examination of the external model output. 3 of the 21 analyzed indicators were taken out of the equation for determining the quality-of-care factors.

Table 3. Outer Loadings, CR and AVE

Variables	Outer Loading					Composite Reliability	Avg. Variance Extracted (AVE)
Financial Literacy (FL)	FL1	FL2	FL3	FL4	FL5	0.914	0.68
	0.832	0.849	0.8	0.886	0.748		
Company Reputation (CR)	CR1	CR2	CR3	CR4		0.837	0.565
	0.758	0.847	0.724	0.664			
Information Security (IS)	IS1	IS2	IS3	IS4	IS5	0.949	0.79
	0.804	0.943	0.923	0.908	0.86		
Risk Perception (RP)	RP1	RP2	RP3			0.813	0.595
	0.769	0.662	0.869				
Intention to Invest (ITI)	ITI1	ITI2	ITI3	ITI4		0.864	0.619
	0.909	0.647	0.858	0.704			

According to the findings of the tests performed on the outer model, presented in Table 3, all trustworthy indicators contained within the study model are in accordance with the stipulated outer loading levels. From the table above, the indicators of CR, FL, IS, and ITI have AVE measures for the convergence validity test with an AVE of 0.50 for all values. This demonstrates validity by showing that each component accounts for at least 50% of the item variation (Hair et al., 2019). The Heterotrait-Monotrait Ratio, often known as HT/MT, is used in the Discriminant Validity test because it is recognized as having a more accurate value than other methods (Hair et al., 2019). According to Henseller et al. (2014), the cutoff point of 0.85 is the one that is recommended for determining whether each constituent index may be considered to be conceptually separate.

Discriminant Validity

In the next Table 4, labelled "HT/MT Ratio," we can see that almost all of the values for this ratio fall well below the threshold of 0.85 for all variables, with the exception of the RP / Risk Perception variable. As a result, we can conclude that the CR, FL, IS, and ITI indices utilized in this research model possessed adequate power to measure the structures they were assigned to.

Table 4. Discriminant Validity: HT/MT Ratio

Variable	CR	FL	IS	ITI	RP
Company Reputation (CR)					
Financial Literacy (FL)	0.339				
Information Security Risks (IS)	0.160	0.080			
Intention To Invest (ITI)	0.160	0.096	0.591		
Risk Perception (RP)	0.401	0.113	0.347	0.321	

The CR, FL, IS, and ITI indicators of this study model are sufficiently identified, and each of their respective components can be evaluated. The only indicator that is not adequately identified is RP. Every indicator can measure the structure's accuracy and precision to varying degrees. We used three parameters to evaluate the reliability and validity of the outer model: construct reliability (Cronbach's alpha and composite reliability), construct validity (average variance extract), and discriminant validity. The reliability indicators that we used were outer loading (comparison of Heterotrait-Monotrait).

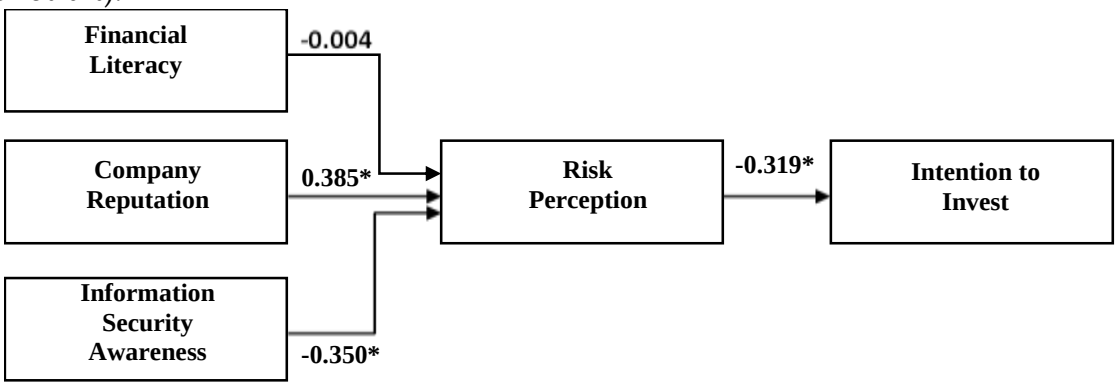

Figure 2. Result Model

Table 5. Hypothesis Test Result

Hypothesis	Path	Coefficient	T Statistics	P Values	Decision
H1	FL ⊚ RP	-0.004	0.033	0.974	Rejected
H2	CR ⊚ RP	0.385	7.954	0.000	Accepted
H3	IS ⊚ RP	-0.350	5.075	0.000	Accepted
H4	RP ⊚ ITI	-0.319	6.413	0.000	Accepted

The results of H1 indicate that, while financial literacy does not significantly impact how Jakarta millennials perceive risk in Peer-to-Peer lending investments, it does lead to a better understanding of investment risks. Even though the majority of respondents (79%) possessed a bachelor's degree and sufficient financial literacy, they still saw investments in Peer-to-Peer lending as risky. This aligns with other studies by Aren and Zengin (2016) and Waheed et al. (2020), which discovered that investors' perceptions of risk are influenced by financial literacy. In addition, van Rooij et al. (2011) found that higher financial literacy is associated with a reduced likelihood of investing due to increased awareness of risks. Financial literacy can help investors overcome biased behavior, as shown in a study by Jonsson et al. (2017). Due to

variations in risk tolerance, financial literacy has not been found to predict individual investing intentions (Gusni et al., 2020).

The study's finding for H2 suggests that company reputation plays a crucial role in shaping risk perception. A company's reputation serves as a measure of its social responsibility to reduce investment risk. As such, the popularity of a Peer-to-Peer lending application plays a vital role in increasing trust and reducing perceived risk. Indonesian millennials believe investing in companies with better reputations could reduce investment risks. A company's reputation has a strong influence on risk perception. If a company has a good reputation, the customer will show a liking for the company and be cooperative with the company concerned. So that under any circumstance, customers will continue to trust and be loyal to the company. The findings of this study are comparable to those of Li et al. (2016), Shao & Zhang (2018), and Sipangkar & Wijaya (2020).

The study's finding of H3 indicates that Information Security has a significant and negative impact on risk perception. In other words, if information security is weak, it will reduce the perceived risk. Despite trusting Peer-to-Peer lending applications to keep their user data secure, the perceived risk of Jakarta millennials is not reduced. Although they believe the app will protect their data, they lack experience using Peer-to-Peer lending apps as investment tools. Therefore, they still face inherent risks associated with their information, such as identity theft, data breaches, or unauthorized access to sensitive information.

Even if the Peer-to-Peer lending application's security measures have been appropriately verified to minimize these risks, they cannot be entirely avoided. Therefore, it is essential to prioritize information security to build trust among users and reduce their perceived risk. Strengthening information security measures can increase the users' confidence in the app's security, which may eventually lead to an increase in their willingness to invest in Peer-to-Peer lending. Consequently, app developers should provide secure and transparent data privacy policies, data encryption, two-factor authentication, and regular security audits to mitigate the inherent risks associated with Peer-to-Peer lending apps. With sophisticated Information and Communication Technology (ICT), users are now active users, information providers, and libraries collecting more information to serve customers than ever, Tsiakis, 2012).

The study of H4 concludes that risk perception significantly influences investment intentions, with a clear negative effect. This suggests that the chance of investing in Peer-to-Peer lending decreases as perceived risk increases. However, investments in risky assets may also influence risk perception. Malmendier & Nagel (2011) demonstrate that lifetime exposure to macroeconomic shocks influences a person's propensity to take financial risks. Their results show that personal experience influences personal perception. Heaton and Lucas (2000) note that the presence of background risks such as labor income and business income affects portfolio allocation. Background risks tend to change over time. Additionally, Ademola et al.

(2019) state that financial literacy has been found to have no discernible impact on investment decisions, while risk perception has a positive but insignificant impact.

E. CONCLUSION

The study's findings show that understanding financial literacy has no impact on how one perceives risk. On the other hand, the reputation of a company has the highest impact on risk perception. Fintech companies can leverage this by enhancing their reputation to build trust and credibility with potential investors, especially among millennials who value transparency, authenticity, and customer service. These investors are more likely to show interest in investing in companies that have a strong reputation for delivering excellent service and support. Meanwhile, information security also has a very detrimental effect on investors' intent on the risk perception of P2P Lending.

This is caused by 72.7% of respondents who are private sector workers who utilize technology regularly. Fintech companies are advised to target this group of respondents the least. It can be conveniently accessed through smartphones as it is developed using information technology. Compared to traditional financing, this service provides faster, more cost-effective, and less discriminatory processes. However, security concerns persist, particularly among millennials who doubt consumer protection. Comprehensive policies regarding safeguarding consumer data are still lacking (Abubakar & Handayani, 2018). This poses a problem, especially with the rapid growth of sustainable fintech. In contrast, other countries have already implemented policies regarding fintech security. Despite these concerns, young people are more inclined to choose this service rather than refrain from it. Furthermore, the perceived risk factor also has a negative impact on investment intention in Peer-to-Peer lending. Despite this, millennials still strongly perceive the financial loss risks associated with investing in P2P lending. This fact highlights that a significant perception of investment risk will deter millennials from investing through Peer-to-Peer lending platforms.

This study has significant implications for the corporate, practice, and government sectors. The findings highlight the importance of reputation for fintech companies in shaping risk perception among potential investors. To build and maintain a strong reputation, developers should focus on offering excellent service and support, transparency, and authenticity, using technology to provide efficient and user-friendly platforms, customer service, and communication channels that cater to millennials' preferences. Furthermore, fintech companies must prioritize information security to mitigate the negative impact on risk perception, implementing robust cybersecurity measures to protect investors' sensitive data and enhance their trust and confidence in the platform.

The study also indicates that financial literacy has no impact on risk perception, implying that other factors, such as reputation and information security, are more influential. As a result, financial practitioners need to educate potential investors about the risks and returns associated with Peer-to-Peer lending, emphasizing the

importance of reputation and information security in the investment decision-making process. Practitioners should work with fintech companies to ensure that investors are fully informed and aware of the risks involved, providing guidance on assessing and managing investment risks on their financial goals and risk tolerance.

As shown from the findings, they suggest that the government needs to implement regulations that protect investors' interests, ensuring that fintech companies provide transparent and reliable information to investors and maintain high cybersecurity standards to protect investors' data. The government can also promote financial literacy and education to help investors make informed investment decisions, developing financial education programs and initiatives that promote responsible and sustainable investment practices. Moreover, the government can encourage fintech companies to prioritize transparency, authenticity, and customer service to build trust and credibility with potential investors, promoting a healthy investment environment that benefits both investors and the fintech industry.

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