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# Impact analysis of peer-to-peer Fintech in Vietnam's banking industry

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Abstract. This paper aims to analyze the factors affecting customer satisfaction and loyalty when using peer-to-peer (P2P) services, thereby drawing some conclusions for the banking industry. The second objective is to determine whether P2P Fintech and traditional banks should collaborate under current circumstances or if they make for healthy competition, and collaboration is optional. The SEM model, IBM SPSS Statistics 20, and IBM SPSS Amos software are used to process data from an official survey of 254 people who have used P2P Fintech from January 5 to February 23, 2022. The results show that P2P Fintech provides products with a better customer experience, and there is a change in customer payment trends. Therefore, bank managers should create appropriate policies for the sustainable development of their banks that would involve establishing their P2P activity and ensuring their customers' satisfaction. Commercial banks need to clarify their responsibilities with service providers and clearly define the data provided to Fintech in order to avoid unintended cases: legal risk that service providers are prohibited or prevented from functioning; potential capital loss or payment delay, ... Moreover, there are risks when using a P2P fintech system, such as technology development, or when the software is discontinued, the level of risk will be very high.

Keywords: Fintech P2P, satisfaction, net promoter score, banking industry

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## **1. INTRODUCTION**

The rapid growth of Fintech startups in payments and P2P (peer-to-peer) applications is one of the prime examples of innovations and breakthroughs affecting the banking industry's business. They have created many difficulties and challenges for the traditional business model of the banking industry due to the change in customer trends. With lower costs and broader coverage, Fintech startups in P2P payments and applications have brought positive and negative changes to the banking industry. They also prompted a new shift -a wave of innovation in the business model of the banking system and many opportunities for banks if they rapidly digitalize to improve their competitive position (Vovchenko et al., 2017; Suryanto, 2016). With a flexible business approach, Fintech companies are competing with banks by adopting agile business methods (Alt et al., 2018). Fintech companies with better value propositions are now challenging the typical lending and payment services that customers frequently use in banks. One of those values is convenience, i.e., ease of transport, time, safety, many promotions, and ease of operation (Siek & Sutanto, 2019). This phenomenon is known as 'Digital Disruption,' which occurs when digital business forms affect existing goods and services (Ahmed & Sulaiman, 2018). Specifically, a product is disruptive if it creates innovation to open up a new, valuable market, and that affects existing ones and causes existing companies to lose access to the customer. Digital disruptions due to Fintech have been reported in Europe (Vives, 2017; Romānova & Kudinska, 2016), the United States (Bunea et al., 2016), China (Shim & Shin, 2016), and Indonesia (Siek & Sutanto, 2019).

This study aims to analyze the impact of Fintech, specifically P2P Fintech, on the banking industry through quantitative approaches such as hypothesis testing and regression analysis. The variables studied include Interest rate, Approval process speed, Convenience, Ease of obtaining a loan, Accessibility, Safety, and Customer satisfaction or Referral to friends and family.

Moreover, this study uses the Net Promoter Score (NPS) to measure how willing customers are to recommend a P2P product or service to others. NPS is used to gauge overall customer satisfaction, loyalty, and the user's experience with banking and P2P products (Siek & Sutanto, 2019). Finally, another objective is to consider whether P2P startups and traditional banks should collaborate due to the former's impact or if this competition is healthy and collaboration is unnecessary.

#### 2. LITERATURE REVIEW

#### 2.1. Fintech Peer to Peer Lending (P2P)

Peer-to-peer lending is a financial solution where borrowers and lenders connect directly, without going through any other intermediary financial institutions. The connection between borrowers and lenders is performed online through websites and online trading platforms of P2P Fintechs. The P2P model was born in 2005 in the United Kingdom, spread quickly to countries worldwide, and developed quickly. Fintech P2P provides an online trading platform for borrowers to connect and borrow directly with lenders. All borrowing and repayment activities (consisting of principal and interest) between borrowers and lenders are recorded and stored by the online trading platform using electronic and digitized tables. In Vietnam, the P2P model entered the financial market in 2016 and is now becoming a new trend in the financial market. Currently, P2P Fintechs have four operating models:

• The first model includes companies that provide technology as a mere platform, acting as an intermediary between lenders and borrowers. These companies may cooperate with banks to pay and manage customers' accounts at the bank (Leibniz, 2016).

• The second is companies that provide technology platforms and cooperate with banks and credit institutions to find customers.

• The third consists of P2P Fintechs raising capital alone, then lending to the customer. This activity is a banking activity and must be licensed, so this behavior needs to be regulated.

• The final operating model is where pawn companies build their apps and websites to lend through usury, or they can link up with technology companies to apply for pawn lending. This form also needs to be prevented because it has negative social consequences and is especially easy for people to misunderstand and misjudge P2P companies.

Vietnamese law does not have specific regulations on P2P activities. However, the State Bank of Vietnam has issued Official Letter No. 5228/NHNN-CSTT (State Bank of Vietnam, 2019) with recommendations to credit institutions to cooperate with P2Ps to ensure their organizations' safety.

#### 2.2. Impacts of Fintech on the banking industry

#### **Positive impact**

The fact that banks and Fintech compete with each other brings a positive impact on the economy as customers can diversify their services (Yao & Song, 2021). The Fintech P2P platform has helped Small and Medium enterprises (SMEs) in accessing loans (Yao & Song, 2021). The target market of Fintech P2P services is large but different from the banking target market, which is one of the possible reasons why P2P Fintech services do not and will not affect bank loans.

Fintech has become an integral part of the financial and banking industry (Romānova & Kudinska, 2016). Fintech and traditional banking are complements rather than interactions, mutuality of substitution, and disruptive innovation (Li et al., 2017). The results of an interview conducted by Zalan & Toufaily (2017) with executives in both the Fintech and banking sectors show that Fintech cannot succeed without banks. Most large financial institutions are starting to adopt Fintech and developing strategies to compete, coexist, and cooperate with Fintech Startups (Lee & Shin, 2018). It could also indicate that the participating Fintechs are still too small to be competitors to big and established banks. In addition, established banks also benefit from their ability to easily maintain credit lines, given their strength (Li et al., 2017). As a result, Fintech is often seen as a threat to traditional financial institutions, but it can offer many opportunities to gain a competitive advantage.

#### Negative impact

Das (2019) mentioned that participants in Fintech could be a competitive threat to banks due to Fintech innovations to maintain or improve existing products. In this case, Fintechs can become a threat to banks, which is reflected in the digital disruption (Siek & Sutanto, 2019). According to Siek & Sutanto (2019), when Fintech companies provide a better customer experience, it increases brand loyalty and brand awareness, thus bringing in more customers. As a result, changes in customer trends and behavior driving the banks to adapt are some of the effects of digital disruption. These are examples of the impact of digital disruption currently caused by Fintechs. Another impact of the Fintech presence is the loss of value proposition in the bank's products.

Fintech P2P companies can disrupt traditional depositing and borrowing money from banks. It consists of high-interest rates on deposits and flexible interest rates with loan period, approval process, faster browsing, ability to be sent via electronic utilities. It features securing principal protection (Siek & Sutanto, 2019). Without Fintech, the customer must contact the bank for loans. However, with the presence of Fintech, the credit approval of the P2P can be received in a few minutes. Credits can also be conveniently performed over the phone, and the interest rates are not too high compared to banks, which is digital disruption in this case. According to Haering (n.d.), there are four digital disruption effects: Disintermediation, Invisibility, Unbundling, and Commoditization.

• Disintermediation means that banks are gradually losing access to customers.

• Invisibility means banks lose brand awareness because consumers can get financial services from other providers.

• Unbundling means that a bank's product is currently not able to be selected by consumers from a single supplier, and

• Commoditization means that banks can no longer identify as banks when comparing themselves with non-banking companies.

#### 3. METHODOLOGICAL APPROACH

The study analyzes the factors affecting customer satisfaction and loyalty when using P2P services, thereby drawing some lessons for the banking industry. The second objective is to conclude whether Fintech P2P and traditional banks should collaborate due to the impact or if this is healthy competition and collaboration is optional.

Convenience and ease of obtaining loans can significantly impact a customer's usage of Fintech P2P services. It is because services with convenience will improve service quality and, at the same time, usage efficiency. Moreover, P2P services can provide a more enjoyable experience for customers, thereby overcoming the limitations of traditional banking services. Therefore, it can be said that the perception of convenience and ease of use of the service can positively affect the intention of customers to use Fintech services (Ryu, 2018). This effect is also found in many studies by Tran et al. (2018) and Siek & Sutanto (2019).

Besides, the ease of use, wherein customers can make transactions quickly and have the right to choose various payment methods with many service providers, can bring the users comfort and satisfaction when using Fintech services (Szopiński, 2016; Siek & Sutanto, 2019). In addition, Fintech services bring exciting experiences to customers when they meet each customer's unique needs. However, suppose the use of Fintech services is prone to difficulties. In that case, customers can quickly encounter errors when used, and transactions become slow and unsafe, which may cause financial losses to customers (Abbad, 2013). In addition, P2P Fintech companies can offer higher deposit rates than banks and a faster approval process. It can be sent via electronic devices, feature safe principal protection, and can be done over the phone with convenience and lower interest rates than banks (Siek & Sutanto, 2019).

The methodology of this study consists of hypothesis building, research questions, variables, and a research diagram. The process also includes study design, data collection methods, data analysis methods, and necessary tests of the SEM model.

#### 3.1. Study design

To study the impact of Fintech P2P on the banking industry, our research model builds upon the model of Siek & Sutanto (2019). Our study includes one dependent variable, six hypotheses for six independent variables, and two hypotheses to determine whether it is a healthy competition or digital disruption between banks and P2P Fintechs. The dependent variable Satisfaction was determined using the Net Promoter Score (NPS) to measure how willing customers are to recommend Fintech products or services to others. This index was developed by Markey & Reichheld (2011) and Siek & Sutanto (2019) by calculating the percentage difference between the group of satisfied customers - Promoter (scale from 9 to 10) and the group of unsatisfied customers - Detractor (scale of 0 to 6). The neutral group of customers (on a scale of 7 to 8) in the total customer feedback will not affect the NPS.

Specifically: Net Promoter Score (NPS) = % P (Promoters) – % D (Detractors)

NPS is measured on a 10-point scale according to Markey & Reichheld (2011) and Siek & Sutanto (2019), consisting of the following considerations:

- (1) Satisfaction with Fintech P2P payment applications
- (2) Willingness to recommend Fintech P2P applications to friends and relatives
- (3) Whether the priority is given to deposit products of banks
- (4) Whether the customer prioritizes lending products of digital banks

The proposed research model is shown below:



Figure 1. Proposed Research Model

The model's assumptions are as follows:

Hi (i = (1) Interest rate (deposit/loan), (2) Approval process speed, (3) Convenience, (4) Ease of obtaining a loan, (5) Accessibility, and (6) Safety, which assumes the same direction as the customer's Satisfaction when using the P2P service.

This research uses NPS to determine whether Fintech P2P and traditional banks should collaborate due to its impact on healthy competition. Collaboration is not necessary to test hypotheses H7 and H8 (Siek & Sutanto, 2019). The content of the observed variables is presented in Table 1.

	Coding of observed variables			
Element	Content of the scale	Code	References	
	The loan interest rate of P2P service is reasonable with the loan period.	RATE1	(Siek & Sutanto, 2019)	
Interest rate (RA)	P2P deposit interest rates are always attractive compared to commercial banks.	RATE2		
	P2P lending/deposit interest rates are always flexible with loan/deposit time.	RATE3		
C	P2P lending/deposit interest rates are always flexible with loan/deposit time.	CON1	(Szopiński, 2016); (Ryu,	
Convenience	Sites with P2P applications are easy to find and well organized.	CON2	2018); (Siek	
(00)	The user interface is very vivid and easy to understand.	CON3	& Sutanto, 2019)	
Approval process	Fast and accurate loan/deposit processing time.	APS1	(Siek &	
speed	The fast processing speed of P2P transactions.	APS2	Sutanto,	
(AP)	P2P transactions can be done anywhere easily and quickly.	APS3	2019)	
Ease of obtaining	Customers get to choose P2P applications for various loan purposes.	EOB1	(Ryu, 2018); (Siek &	
a loan (EO)	Customers get to choose different loan periods easily from P2P	EOB2	Sutanto, 2019)	
	Customers can easily choose payment services for loans from the P2P application.	EOB3		
Aggaggibility	Fintechs always have many lending methods for customers to choose from	ACCE1	(Szopiński, 2016); (Siek	
(AC)	Fintech P2P services are always diverse and rich.	ACCE2	& Sutanto,	
(110)	Fintech P2P service packages suit customer needs.	ACCE3	2019)	
	Fintech companies do not share customers' personal information with other companies.	SAF1	(Abbad, 2013); (Siek	
(SA)	Customers' personal shopping information is confidential.	SAF2	& Sutanto,	
(5A)	Customers' personal credit card information is secure.	SAF3	2019)	
Satisfaction (NP)	Customers are satisfied with P2P applications.	NPS 1	(Markey &	
	Customers are willing to recommend P2P applications to friends and relatives.	NPS2	Reichheld, 2011); (Siek & Sutanto,	
	Customers will prioritize using deposit services at banks.	NPS3		
	Customers will prioritize using loan products from digital banks.	NPS4	2019)	
	1			

Table 1

Source: Compiled by the author

## 3.2. Research process and methods

This article uses primary data from a survey conducted through two main steps: (1) Preliminary research; and (2) Formal Research. In the preliminary research step, the author identifies research questions that need to be investigated with each influencing factor from the research model (Gomber et al., 2017).

Most questions designed for the survey are closed-ended to ensure that the necessary information can be collected. The questionnaire is divided into two main parts. Part A revolves around the general biographical details of the interviewee. The questions in part B represent the six main topics examined in the study. Before carrying out the official survey, the author collected opinions from five experts, including professors at the Vietnam National University, Ho Chi Minh City. After the formal discussion, the author converts the raw data into the interview results. Each interviewer sent a transcript so they could review it for accuracy. From here, the author proceeds to edit and develop the questions in the survey. The pilot survey is the final step in building the questionnaire. The author conducted a test survey of 30 samples, with the objects being colleagues (15 people) and 15 students studying at the Graduate School in the Vietnam National University, Ho Chi Minh City.

In the official research step, the author conducts a survey using google.doc forms. The official survey was conducted from January 5 to February 23, 2022, through students studying at the Graduate School and students from a high-quality program at the Vietnam National University, Ho Chi Minh City using emails collected from the Student Affairs Department. Thus, in this study, there are seven variables with 22 scales in the questionnaire, corresponding to the minimum sample of 110 observations. Therefore, in this study, to ensure the response rate, 280 questionnaires were distributed. The result was 254 votes, reaching 90.7%. After data collection, the author used the IBM SPSS Statistics and IBM SPSS Amos software to process the data quantitatively through the following steps:

- Descriptive statistics
- Testing the reliability of Cronbach's Alpha scale
- Exploratory factor analysis and confirmatory factor analysis
- Testing of SEM structural models using IBM SPSS Statistics and IBM SPSS Amos

## 4. CONDUCTING RESEARCH AND RESULTS

## 4.1. Reliability and validity of the scale

After collecting the survey tables using the Google.doc tool, the author cleaned the data and used the statistical software IBM SPSS Statistics and IBM SPSS Amos to analyze the data. The scales are first analyzed for reliability by using Cronbach's Alpha coefficient. The results of the analysis are presented in Table 2 and show that all five scales ensure reliability (Cronbach's Alpha < 0.6; Total correlation coefficient of each component < 0.3 (Hair et al., 2010) and are included in further studies.

Table 2

Quarty of observed variables (indicators)							
	SA	RA	AP	EO	AC	СО	
SAF2	.945						
SAF3	.927						
SAF1	.919						
RATE2		.933					
RATE1		.911					
RATE3		.904					
APS3			.910				
APS1			.872				
APS2			.841				
EOB2				.892			
EOB3				.869			

Quality of observed variables (indicators)

Table 3

EOB1		.861		
ACCE2			.860	
ACCE3			.859	
ACCE1			.826	
CON1				.865
CON2				.778
CON3				.757

Source: Results of data analysis

According to Henseler & Chin (2010), the scale's validity is also expressed by convergent and discriminant validity. Table 3 shows the Average Variance Extracted (AVE) of all factors Interest rate (RA), Approval process speed (AP), Convenience (CO), Ease of acquiring loan (EO), Accessibility (AC), Safety (SA), and Satisfaction (NP) are more significant than 0.5.

Thus, the scale has ensured the requirement of convergent validity, according to Fornell & Larcker (1981).

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	Number of	Cropbach's Alpha	Confidence	Average Variance				
	variables	Ciolibacii s Alpha	coefficient (CR)	Extracted (AVE)				
СО	3	0.735	0.744	0.497				
EO	3	0.857	0.857	0.666				
AC	3	0.810	0.814	0.594				
AP	3	0.859	0.862	0.677				
RA	3	0.912	0.914	0.780				
SA	3	0.933	0.934	0.826				
NP	4	0.954	0.956	0.843				

Convergence of the scale

Source: Results of data analysis

Fornell & Larcker (1981) proposed a requirement to ensure the discriminant of the factors, wherein the square root of the extracted variance for each factor must be greater than all the correlation coefficients between it and other factors. Table 4 shows that the data satisfies this condition. Thus, the scale has ensured discriminant validity.

Table 4. Discriminant value according to Fornell-Larcker'criteria

	СО	EO	AC	RA	SA	AP
СО	.871					
EO	.849	.887				
AC	.735	.762	.872			
RA	.809	.829	.834	.836		
SA	.832	.774	.837	.832	.852	
AP	.815	.819	.724	.831	.835	.847

Source: Results of data analysis



## 4.2. Description of the results from the analysis of the linear structural model



Figure 2 depicts the results of the analysis of the linear structural model. The SEM structural model test results show that the model has Chi-Square = 267,730; df=202 degrees of freedom; TLI = 0.973; CFI = 0.976, hence these indexes are all greater than 0.9; RMSEA index = 0.041, therefore less than 0.08 (Hair et al., 2010). This result shows that the theoretical model is consistent with the research data. The estimated coefficients (beta) in the SEM structural model are all positive, proving the relationship between the variables. All these relationships are statistically significant at the 1% significance level.

### 4.3. Bootstrapping test

Hair et al. (2010) suggested that the number of subsamples generated when performing the Bootstrapping test should be 5,000. Therefore, the author also performed the test with 5,000 generated subsamples in this study.

Table 5

Parameter			SE	SE-SE	Mean	Bias	SE-Bias
NP	<	SA	.073	.001	.193	.001	.001
NP	<	RA	.074	.001	.160	001	.001
NP	<	AP	.073	.001	.183	.000	.001
NP	<	EO	.083	.001	.218	002	.001
NP	<	AC	.084	.001	.214	001	.001
NP	<	СО	.086	.001	.314	004	.001
NPS4	<	NP	.029	.000	.849	.000	.000
NPS1	<	NP	.020	.000	.942	.000	.000
SAF2	<	SA	.013	.000	.946	.000	.000
SAF3	<	SA	.026	.000	.873	.001	.000
SAF1	<	SA	.018	.000	.907	.000	.000
RATE2	<	RA	.043	.000	.912	.000	.001
RATE1	<	RA	.030	.000	.877	.000	.000
RATE3	<	RA	.071	.001	.859	.001	.001
APS3	<	AP	.041	.000	.903	.000	.001
APS1	<	AP	.044	.000	.805	001	.001
APS2	<	AP	.046	.000	.749	003	.001
EOB2	<	EO	.041	.000	.832	.000	.001
EOB3	<	EO	.040	.000	.787	001	.001
EOB1	<	EO	.033	.000	.828	.000	.000
ACCE3	<	AC	.043	.000	.796	.000	.001
ACCE2	<	AC	.044	.000	.796	.000	.001
ACCE1	<	AC	.058	.001	.719	.001	.001
CON1	<	СО	.065	.001	.852	.005	.001
CON3	<	СО	.055	.001	.648	002	.001
CON2	<	СО	.075	.001	.596	002	.001
NPS3	<	NP	.018	.000	.926	.000	.000
NPS2	<	NP	.024	.000	.883	.001	.000

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Source: Results of data analysis

Bootstrapping test results in Table 5 show that the biases (Bias) and standard errors of bias (SE-Bias) are insignificant, and the p-values corresponding to the relationships are all less than 0.01. The impacts of the variables Interest rate (RA), Approval process speed (AP), Convenience (CO), Ease of acquiring loan (EO), Accessibility (AC), and Safety (SA) on the variable Satisfaction (NP) are all positive and statistically significant at the 1% level. Thus, the linear structural analysis and the test results show that all the hypotheses from H1 to H6 are accepted.

To test hypotheses H7 and H8, the author conducted an NPS analysis. NPS shows that the satisfaction level with Fintech P2P with the Promoter group (on a scale of 9 to 10) is high, reaching 50 satisfied and



very satisfying answers (Figure 3). In addition, none of the respondents reports being unsatisfied even if they score four on this scale.



For respondents asked to rate from 1 to 10 on their willingness to recommend Fintech apps to their friends, most of them are happy to recommend P2P Fintechs. Based on the Fintech P2P promoter score, Promoters have 40.2%, Passives have 32%, and Detractors have 17.78%, so the NPS is 12.4%.

In addition, when asked about the priority of deposit products of banks, 88.1% of the survey respondents report giving priority to deposit products at banks, and 85.3% prioritize products for banks' loans from digital banks. This result shows that although most customers are willing to recommend P2P Fintech to their relatives and friends (more than 50%), they would still prefer deposit products and loans from digital banks. Therefore, it can be observed that the level of brand loyalty and awareness for P2P Fintech is lower than for banks, which is why P2P Fintech does not cause digital disruption. Thus, with the sample collected in this study, there is not enough statistical data to conclude that Fintech P2P causes digital disruption (H7).

Our research results show that: (i) Fintechs are providing products with a better customer experience; and (ii) there is a change in customer payment trends. This forces banks to perform the same services as P2P Fintechs or change their business models soon to compete. In this case, banks should cooperate with P2P Fintechs for mutual benefit (Siek & Sutanto, 2019). Banks are now also collaborating with P2P Fintechs, including Tima and Interloan Joint Stock Company, .... Tima is currently a Fintech company operating in the field of financial connection. It is Vietnam's largest Fintech P2P lending platform and signed a strategic cooperation agreement with Vietinbank Insurance Corporation in October 2018. In this agreement, Tima uses VietinBank Insurance's service to provide borrowers loans. When borrowers encounter unforeseen risks, VietinBank Insurance helps them repay loans. In addition, Interloan Joint Stock Company signed a cooperation agreement with three commercial banks, including Sacombank, Nam A bank, and Vietcapital Bank, along with four enterprises in the field of production, business, and services, namely McDonald's Vietnam, Mat Bao, Vien Dong Insurance and Viet Money Company. The partners commit to jointly sharing each other's products and introducing services to exploit the personal consumption financial market. Thus, hypothesis H8 is accepted.

## 5. CONCLUSION

Banks have been adapting to this competition by expanding their scale through mergers or raising capital to take advantage of their products and services scale and network distribution branches. However, to face the rapid development and meet the needs of P2P customers, Vietnamese commercial banks also need to draw lessons for themselves, such as:

(i) They need to improve the technical quality of financial products and services as well as other areas of the banks. Banks can learn the technology from Fintech P2P products to adjust banking products while ensuring their benefits;

(ii) More insight is needed to understand how P2P Fintech companies operate. That is, banks need to understand the technology model as well as the legal regulations of Fintech P2P;

(iii) It is necessary to improve the quality and quantity of human resources because the human factor is decisive for the development of science and technology in the financial system in Vietnam;

(iv) It is necessary to improve and upgrade the data systems to ensure the safety of users. Banks must clarify their responsibilities with service providers and clearly define what data to provide Fintech to avoid unintended cases.

For Fintech P2P, currently, the digital disruption is insignificant, and in reality, banks have had investment strategies to improve digital technology along with the handshake of some banks with Fintech P2P. However, at present, the form of Fintech P2P is still new in Vietnam, the legal system in Vietnam has yet to account for it, and the collapse of the P2P Fintech model in China in 2018 all shows that the cooperation with Fintech P2P needs to take care and calculated steps.

In the course of cooperative transactions with Fintech P2P companies, commercial banks should carefully consider the proposal with Fintech P2P Lending companies and should fully disclose, transparently and truthfully, the content of cooperation and transactions between commercial banks and Fintech P2P companies. This transparency should be reflected in all messages and means of advertising, communication, and sales that Fintech P2P companies transmit to consumers and stakeholders.

The results of this study can be a reference for P2P Fintechs and commercial banks in making critical strategic decisions on whether they want to cooperate or compete. The following research direction is to expand the research scope to all types of Fintech with a more extensive research sample and study all three subjects: customers, Fintechs, and commercial banks.

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