Association for Information Systems
AIS Electronic Library (AISeL)

PACIS 2017 Proceedings

Pacific Asia Conference on Information Systems (PACIS)

Summer 7-19-2017

Influencing Lenders' Repeat Investment Intention in P2P Lending Platforms in China through Signaling

Ming Yang
Central University of Finance and Economics, yangming@cufe.edu.cn

Haiyang Li
Central University of Finance and Economics, haiyang_93@msn.cn

Zhen Shao
School of Management, Harbin Institute of Technology, China, shaozhen@hit.edu.cn

Wei Shang
Updated - AIS, shangwei@amss.ac.cn

Influencing Lenders' Repeat Investment Intention in P2P Lending Platforms in China through Signaling

Completed Research Paper

Ming Yang
Central University of Finance and Economics
Beijing, China
yangming@cufe.edu.cn

Haiyang Li
Central University of Finance and Economics
Beijing, China
haiyang_93@msn.cn

Zhen Shao
Harbin Institute of Technology
Harbin, China
shaozhen@hit.edu.cn

Wei Shang
Academy of Mathematics and System Science
Beijing, China
shangwei@amss.ac.cn

Abstract

Repeated investments by lenders are critical for the survival and success of an online P2P lending platform. Lenders' trust in a platform influences their investment decisions. This study explores the impact of trust and its antecedents on lender investment intention in online P2P lending platforms. An online survey of 358 active P2P lenders on several leading online P2P lending platforms in China was conducted. Empirical results suggest that lender trust in a platform has a strong influence upon both perceived risk and investment intention. Furthermore, the results show that top management team heterogeneity, reputation, and quality of the platform have significant effects on lender trust. Both theoretical and practical implications of these findings are discussed.

Keywords: Online P2P marketplace, lender trust; signaling theory; repeat investment intention

Introduction

Online peer-to-peer (P2P) lending is a form of financial transaction that occurs directly between individuals in an electronic marketplace without the intermediation of traditional financial institutions. In recent years, online P2P lending has emerged as an appealing new channel of financing (Agrawal et al. 2013; Burtch et al. 2013; Lin et al. 2013). With the strong tide of web-based financial management innovations, more than 3,944 online P2P lending platforms were launched in China in 2015, and the total transaction value of this market has reached RMB 110 billion. Moreover, there were about 500 million online P2P lending transactions made during each month of 2015 in China.

However, online P2P lending is still a high risk investment channel due to information asymmetry, which may result in adverse selection (Akerlof 1970) and moral hazard (Stiglitz and Weiss 1981). Lenders may become victims of fraud and business failure on these P2P lending platforms. These problems not only harm lenders financially and even emotionally, but also cause significant damage to P2P lending platforms in general, destroying their reputations. Indeed, the number of Internet complaints about online P2P lending increased threefold in 2015. Given the realistic concerns lenders face, this study seeks to explain the apparent popularity and success of online P2P lending platforms

and to create a framework for understanding the factors that influence lenders' repeat investment intention. The study also aims to elucidate steps that can be taken to increase lenders' trust and reduce their perception of risk.

Both economists and sociologists agree that trust is a crucial enabling factor in relationships fraught with uncertainty, interdependence, and fear of opportunism (Gefen 2002; Gefen et al. 2003; Hoffman et al. 1999), as is the case for the relationships in online markets. Indeed, many online P2P lending platforms have devoted enormous effort to enhancing trust. For instance, most online P2P lending platforms in China offer services such as guarantees in case of delinquency by borrowers, evaluations of borrower credit risk, and assurances against loan defaults, just as credit companies do. Thus, it is vital for the individual lender to evaluate and assess an online P2P lending platform proprietor's capacity and willingness to pay back loans. Moreover, with the rapid growth in the number of P2P lending platforms, many lenders are prone to switching from one platform to another in search of better returns on investment. Since trust is essential yet dynamic in online transactions, it is important to identify the antecedents of lender trust.

In prior research, such trust has been viewed through a variety of lenses. For example, the influence of borrowers' narratives on lender decisions concerning unsecured personal loans have been examined (Herzenstein et al. 2011), and trust between borrowers and lenders has been investigated (Greiner and Wang 2010). Some researchers have studied the social and behavioral factors which influence lender trust in both P2P platforms and borrowers (Chen et al. 2014; Zhang et al. 2014). However, the limited amount of research has yet to produce a comprehensive understanding of the factors that may be used to predict lenders' repeat investment decisions. Given the increasing prevalence of online P2P lending, there is an urgent need to analyze a lender's repeat investment decision-making process from a holistic standpoint in order to provide an understanding of the complexity and dynamics of trust in online P2P lending. Accordingly, the specific research questions for this study were as follows: What are the roles of trust, risk and benefit in a lender's repeat investment decision? What antecedents can be identified that affect a lender's trust in an online P2P lending platform?

The remainder of this paper is organized as follows: Section 2 provides the theoretical background of the study. Section 3 presents the research model and underlying hypotheses. The measurement methods and the results of data analysis are discussed in Sections 4 and 5, respectively. Section 6 is a summary of the study's implications.

Theoretical Background

In this section, trust in the context of online P2P lending platforms will be discussed first. Second, signaling theory and information asymmetry in the context of electronic marketplaces will be analyzed.

Trust in Online P2P Lending Platforms

Trust and trust-building mechanisms are important in electronic marketplaces because they reduce the perceived uncertainty and risk associated with anonymous online exchanges and help consumers to engage in trusting behavior, such as exchanging personal information and purchasing goods (Ba and Pavlou 2002; Gefen et al. 2003; McKnight et al. 2002; Pavlou and Gefen 2004). The discussion in this study follows the widely accepted definition of Mayer, Davis, and Schooram (1995), who conceptualize trust as the "willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party," (p. 712). This definition emphasizes important points common to online transactions: (1) despite the uncertainty surrounding the transaction, (2) one party is willing to take the risk and potentially lose something important by depending on the other party, and (3) this willingness is dependent upon certain expectations or beliefs about the other party (Greiner and Wang 2010).

An online P2P lending platform is a website (as well as the underlying procedures, routines, and information systems) that: matches borrowers and lenders; facilitates the exchange of information, funds, services, and payments associated with transactions; and provides an institutional infrastructure. In P2P lending markets, lender investment intention and behavior do not rely only on the borrower's traits, but on the lender's evaluation of the platform as well. Several studies have been conducted on the effects of trust on lending intention for P2P lending platforms (Chen et al. 2014; Greiner and Wang 2010; Zhang et al. 2014). Previous studies have mainly focused on factors that influence a lender's trust-building process. This study, on the other hand, examines the ongoing trust-

preservation mechanisms between intermediary (the P2P lending platform) and buyer (the lender) that facilitate a transaction (borrowing).

However, these studies lack a proper theoretical foundation for explaining repeat investment intention in P2P platforms. The present study overcomes this limitation by focusing on the decision-making behaviors of lenders based on previous investment experience with P2P lending platforms. Because P2P lending is characterized by risk and uncertainty on the part of lenders, theories that explain lender choice and decision-making under conditions of information asymmetry and risk should shed light on lender behavior. One such approach utilizes signaling theory, which is widely used for explaining customer choice and decision-making under the conditions of information asymmetry and risk (Connelly et al. 2011).

Signaling Theory

Signaling theory offers a firm explanation for how people make judgments about quality in a range of situations, particularly when quality is difficult or impossible to directly observe (Benlian and Hess 2011). The conceptual foundations of signaling theory, rooted in information economics and contract theory, draw on the premise that different parties in a transaction often have different amounts of information regarding the transaction, and such information asymmetry has implications for the terms of transaction and the relationship between the parties (Kirmani and Rao 2000). Signaling theory applied in consumer research argues that when faced with information asymmetry and the resulting difficult decisions regarding quality, consumers attend to particular kinds of information cues (actions or artifacts of businesses) that credibly relay information about the quality of the unobservable product (or company) (Boulding and Kirmani 1993). In particular, they look for indicators or correlates of quality that are difficult to fabricate.

According to signaling theory, there are two players: the signaler and the receiver. The signaler sends signals to the receiver, and those signals reflect the qualities of the signaler (Connelly et al. 2011). According to these signals, the receiver makes an assessment of the quality of the signaler and takes action. In repeated games, after gaining an understanding of the true quality of the signaler, the receiver can also send feedback about the quality of the signaler to other receivers. Therefore, the feedback from receivers facilitates efficient signaling (Connelly et al. 2011).

In online P2P lending, a fundamental information asymmetry exists since lenders lack information about the P2P lending platform. Lenders refer to various signals to reduce this information asymmetry. In the context of P2P lending platforms, the signaler is the P2P lending platform, and it employs a signaling approach to persuade lenders into believing that the platform provides high credit projects, strict risk control, and assurances against loan defaults. Thus, the information disclosed by the platform is a signal to the potential lender. The receivers of the signal are every potential lender reading the signal.

A result of the existence of information asymmetry in online P2P lending is that potential lenders tend to ignore information released by the P2P lending platform because it is tainted by omission or misrepresentation. Thus, lenders would be expected to be cautions of the claims made by the platform, being particularly responsive to valid signals of economic value that they perceive as more genuine while disregarding signals deemed suspicious or manipulable. The validity of a signal in the minds of lenders is dependent on the inherent credibility of that signal (Spence 1976).

In studying online P2P lending, “credibility” refers to the perception that the platform would act in a manner consistent with the goal of generating stakeholder wealth, and it also refers to the trust that the platform’s economic potential is accurately reflected in information provided to lenders. Prior research suggests that credibility is particularly important in new ventures as it is critical to the capacity to acquire other resources, including capital (Zimmerman and Zeitz 2002).

Research Model and Hypotheses

Research Model

Based on the related literature on trust in electronic marketplaces, we propose that trust in a P2P lending platform along with perceived risk and perceived benefit are the antecedents upon which lenders base their investment intention toward different platforms. Drawing on signaling theory, we propose that heterogeneity of the top management team of the platform as well as its reputation and

website quality are sources of trust. Furthermore, the relationship between platform trust and perceived risk will be discussed. The proposed conceptual model for this study is shown in Figure 1.

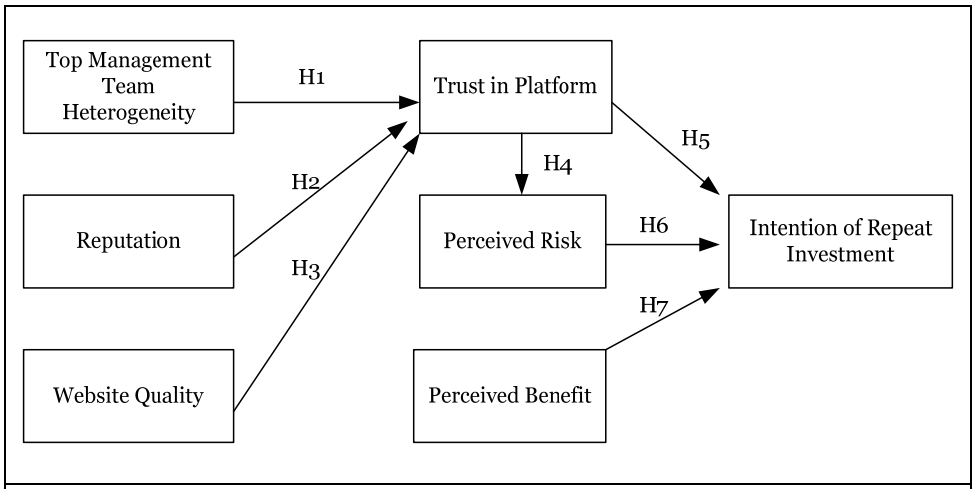


Figure 1. Research Model

Signals for Enhancing Lender Trust

Top Management Team Heterogeneity

Research suggests that TMT characteristics can signal organizational legitimacy that in turn influence investor decisions (Higgins and Gulati 2006). As a fundamental driver of organizational norms, values, decision-making and action, the TMT can convey legitimacy on behalf of the organization (Cohen and Dean 2005). TMT heterogeneity is typically measured in terms of observable characteristics such as functional background, education, tenure, and age, which serve as proxies for psychological attributes that influence strategic choice and company performance (Hambrick and Mason 1984). TMT heterogeneity in a P2P lending platform may be viewed as the extent to which the composition, characteristics, and behavior of the TMT contributes to the credibility of the platform. We expect TMT heterogeneity to influence lender perception of a P2P lending platform and thereby act as a valid signal, because lenders who are unable to discern the platform's quality based on economic disclosures may move to more social indicators of value.

The TMT heterogeneity of a P2P lending platform is highly related to its ability to control bad-debt expense risk. Several studies have explored the effects of TMT on investor decisions. For instance, it has been found that TMT is an important signal of value in an initial public offering (IPO) (Cohen and Dean 2005; Lester et al. 2006). TMT heterogeneity provides a signal to potential investors about the quality of the IPO and hence is associated with greater capital accumulations (Zimmerman 2008). Moreover, entrepreneurial team diversity has been discovered to be positively and significantly related to the willingness of respondents to invest venture capital (Vogel et al. 2014) . Therefore, we hypothesize as follows:

H1: TMT heterogeneity is positively related to lender trust in a platform.

Reputation

The reputation of a vendor is considered a key factor for creating trust (Qureshi et al. 2009) because it is evidence that shows the vendor has honored or met its obligations toward other consumers in the past (Kim et al. 2008). The reputation of a vendor includes the vendor's public image regarding its commitment to customer satisfaction, its innovativeness in customer service, the quality of what it offers, and issues relating to its corporate and social responsibility (Ba and Pavlou 2002; Koufaris and Hampton-Sosa 2004; Yoon 2002). Hence, the reputation of an online P2P lending platform may be defined as the degree to which lenders hold the platform in high esteem.

Reputation-building is a social process dependent on past interactions between lenders and a P2P lending platform (Collier et al. 2010). Based on the platform's reputation, a lender is likely to infer that the platform will continue its behavior in the transaction at hand. In the case of a positive

reputation, one is likely to believe that the platform has the capacity to cover the lender's principal and interest, and therefore conclude that the platform is credible and trustworthy. In the case of a negative reputation, a lender may conclude that the platform will not honor its specific obligations, and hence may deem it non-credible and untrustworthy.

In online P2P lending, the platform reputation is even more critical to the lender's assessment of platform credibility because there are fewer visible signals of credibility and greater risks. Reputation has been shown to lead to trust in repurchasing decisions (Hsu et al. 2014; Qureshi et al. 2009). In P2P lending, lenders can infer the trustworthiness of a platform through rating and comments in the feedback-based systems. Repeat investors believe that decent P2P lending platforms will not destroy their reputation by acting opportunistically. Therefore, we hypothesize:

Hypothesis 2: The reputation of a P2P lending platform is positively related to lender trust in the platform.

Website Quality

Online transactions are generally carried out on a website, and thus website quality plays an important role in determining the success of an online P2P lending platform. From the perspective of the D&M model, website quality focuses on the user's perception of website design quality, and it can be divided into three distinct dimensions: system quality, information quality, and service quality (DeLone and McLean 2003). System quality refers to the technical quality of the platform, while information quality is the quality of information disclosed by the platform. Service quality refers to overall support delivered by the platform. In this study, website quality is treated as a construct composed of these three divisions.

In P2P lending, repeat investors have full transaction experience with a platform through its website, on the other hand, they are able to evaluate information quality, service quality and system quality of the platform. Prior studies have indicated that website quality is an important determinant of trust and repurchase intention. For example, it has been shown that a returning customer's perception of the website quality of an online vendor is positively related to his/her trust in the online vendor (Qureshi et al. 2009). Furthermore, website quality influences consumer perception of product quality, which subsequently affects online purchase intention (Wells et al. 2011). Additionally, website quality has been found to have a greater influence on perceived product quality when consumers had higher degrees of information asymmetry (Wells et al. 2011). Therefore, we hypothesize as follows:

Hypothesis 3: Website quality is positively related to lender trust in a platform.

Trust in the Platform

A P2P lending platform is an online platform that uses the Internet to facilitate transactions among lenders and borrowers by collecting, processing, and disseminating information. One of the platform's main roles, and the focus of this study, is to positively affect lender investment intention by reducing perceived risk. Trust in the platform is defined as the subjective belief of a buyer that the platform will institute and enforce fair rules, procedures, and outcomes competently, reliably, and with integrity, and if necessary, will provide resources for buyers to deal with opportunistic behavior by sellers (Pavlou and Gefen 2004).

Trust and Perceived Risk

Perceived risk is the subjective belief that there is some probability of suffering a loss in pursuit of a desired outcome (Pavlou and Gefen 2004). This study defines lenders' perceived risk of the P2P lending platform as the perception of the lender that there is some probability of suffering a loss when pursuing transactions on a platform. Based on studies (Mayer et al. 1995) and (Gefen et al. 2003), this study views perceived risk as lender fear that stems from the potential for opportunistic behavior on the platform (e.g., outright fraud or collapse). In this study, this risk is distinguished from concerns related to the nature of the online context or the behavior of entities other than the platform (e.g., opportunistic behavior by borrowers).

A trusted P2P lending platform can be expected to take steps to reduce lender risk. First, a trusted platform will reduce transaction uncertainties and prevent opportunistic behavior by borrowers. Enforcement steps may include identifying and removing unqualified borrowers or taking legal action against delinquency on behalf of lenders. Second, many platforms provide assurances against loan

defaults to protect lenders. This absorption of risk by the platform helps to reduce lenders' actual risk, and presumably by doing so also reduces lenders' perceived risk of transacting with borrowers on the platform. Such absorption of risk by the platform also illustrates the degree to which the platform itself believes in its own capacity for trustworthiness, because if the platform was indeed too risky, it would be unable to sustain such practices and guarantees. Therefore, we hypothesize as follows:

Hypothesis 4: Trust in a P2P lending platform is inversely related to lenders' perceived risk of investment.

Trust and Intention of Repeat Investment

In this study, intention to invest is defined as the lender's intention to engage in online exchanges on a P2P lending platform. Lenders taking part in online P2P lending where there is uncertainty and information asymmetry require trust in the platform. By extrapolating from the theory of reasoned action (TRA) (Ajzen, 1980), trust can be viewed as an antecedent belief that creates a positive attitude toward transaction behavior (Jarvenpaa et al. 2000), which in turn leads to transaction intention. Using the same logic, it has been shown that trusting beliefs in the platform increase buyer intention to transact with sellers (Hong and Cho 2011).

Following the logic of trust-transference, we believe that trust in the platform could affect lenders' repeat investment intention in a P2P lending platform. Lenders who trust a certain platform will also trust the borrowers on the platform because of the borrowers' perceived association with the platform (Chen et al. 2014). In contrast, a lack of trustworthiness will reduce lender motivation to continue lending on the platform. The effect of trust on lender willingness has been empirically supported in research on P2P lending (Sun 2010). Therefore, we hypothesize as follows:

Hypothesis 5: Trust in a P2P lending platform is positively related to the intention of repeat investment.

Perceived Risk and Intention of Repeat Investment

Analysis of risk perceptions has long been viewed as an important factor in economic decisions (Chiles and McMackin 1996). The relationship between perceived risk and transaction intention is also explained by the TRA. Perceived risk increases negative expectations, leading to an unfavorable attitude that negatively influences transaction intention (Pavlou and Gefen 2004). Empirical evidence supports the expectation of an inverse relationship between perceived risk and intention to lend to borrowers on an online P2P lending platform (Chen et al. 2014; Zhang et al. 2014). Therefore, we hypothesize as follows:

Hypothesis 6：Perceived risk from platform is negatively associated with a lender's intention of repeat investment on the P2P lending platform.

Perceived Benefit and Intention of Repeat Investment

In this study, perceived benefit is defined as a lender's belief about the extent to which he or she will benefit from investing in a certain P2P platform. Lenders invest in such a platform because they perceive many benefits compared to traditional modes of investment (e.g., superior returns, time savings, and increased convenience). Thus, in contrast to perceived risk which potentially creates a barrier to P2P lending, a lender's perceived benefit provides a major incentive for investing. Consequently, the more lenders perceive benefits from a platform, the more likely they are to engage in transactions through that platform. Perceived benefit has been found to be a critical determinant of willingness to lend (Chen et al. 2014; Zhang et al. 2014). Therefore, we hypothesize as follows:

Hypothesis 7: Perceived benefit of investing through a P2P platform is positively related to a lender's intention of repeat investment.

Research Methodology

Data Collection

A survey-based empirical study was conducted. Online surveys were sent via Sojump (one of the largest online survey platforms) and data was collected from April 2016 to July 2016. 1,000 questionnaires in total were sent to individuals that have investment experience in China's ten biggest

P2P lending platforms, such as Lufax, Peer-to-peer Lender, Ppdai, Red Ridge Venture, Eloancn, etc. Incomplete questionnaires were discarded, and in the end, 358 of the questionnaires were deemed valid (response rate of 35.8%). The demographics of the respondents are summarized in Table 1.

Table 1. Sample Demographics		
Total : 358	Frequency	Percentage
Gender		
Male	203	56.70%
Female	155	43.30%
Age		
Under 18	2	0.56%
18–25	120	33.52%
26-30	150	41.90%
31–40	65	18.16%
Over 40	21	5.87%
Education		0.00%
High school or lower	15	4.19%
Junior college	42	11.73%
College	215	60.06%
Graduate school	86	24.02%
Monthly Income		
Less than 2,000 RMB	49	13.69%
2,000–3,000 RMB	27	7.54%
3,001–5,000 RMB	95	26.54%
5,001–8,000 RMB	98	27.37%
8,001–15,000 RMB	71	19.83%
More than 15,000 RMB	18	5.03%
Years of P2P lending platform use		
Less than 1 year	107	29.89%
1–2 years	159	44.41%
2–3 years	71	19.83%
3-5 years	19	5.31%
More than 5 years	2	0.56%

Table 1. Sample Demographics

Instrument

This study drew upon the extant literature in selecting items to be measured, and several revisions were made to better adapt each item to the context at hand. As suggested in studies (Cohen and Dean 2005) and (Higgins and Gulati 2006), the construct of top management team heterogeneity was measured using the items of top management team experience, educational background, and functional background. The construct of investment intention was adapted from the study (Pavlou and Gefen 2004), and the items were revised according to the context at hand.

All items were assessed using a seven-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. A pilot study was conducted in March 2016: 175 questionnaires were sent to investors of the P2P lending platform Multi-Win. Items with high loading values from the scale (< .70) were deleted, and three to four items for each construct were kept in the final data collection (Chin et al.

2003). The items measured are shown in Table 2, and the final survey instrument is provided in Appendix A. In addition, three control variables, i.e., education, income and prior experience, are also adopted in the model analysis.

Table 2. Items Measured		
Construct	Items Measured	References
TMT heterogeneity (TM)	TM1, TM2, TM3	(Cohen and Dean 2005) (Chowdhury et al. 2002; Higgins and Gulati 2006)
Reputation (RE)	RE1, RE2, RE3	(Hsu et al. 2014; Jarvenpaa et al. 2000)
Website quality (WQ)	WQ1, WQ2, WQ3, WQ4	(Hsu et al. 2015)
Trust in platform (TR)	TR1, TR2, TR3, TR4	(Hong and Cho 2011; Kim et al. 2008; Pavlou and Gefen 2004)
Perceived risk (PR)	PR2, PR3, PR4	(Kim et al. 2008; Verhagen et al. 2006)
Perceived benefit (PB)	PB1, PB2, PB3	(Chen et al. 2014; Kim et al. 2008)
Investment Intention (IV)	IV1, IV2, IV3	(Pavlou and Gefen 2004)

Table 2. Items Measured

Structural Equation Modeling Analysis

The structural equation modeling (SEM) technique was employed since it is able to process multiple dependent variables and is effective in handling errors of measurement within unobserved latent variables (Chin et al. 2003). SmartPLS was used as the primary statistical tool, and the sample size of 358 satisfies the requirements for data analysis: either 10 times greater than the largest measurement number within the same construct or 10 times greater than the largest construct number affecting the same construct (Chin et al. 2003).

Measurement Model Analysis

The measurement model was first examined with SmartPLS to analyze the reliability, convergent validity, and discriminant validity of the constructs. The analysis results are illustrated in Table 3 and Table 4.

Table 3. Reliability and Convergent Validity Analysis					
Constructs	Items	Factor Loading Values	T value	Composite Reliability	AVE
TMT heterogeneity	TM1	0.94	68.53	0.95	0.88
	TM2	0.95	72.02		
	TM3	0.91	49.79		
Reputation	RE1	0.87	44.37	0.94	0.84
	RE2	0.95	72.09		
	RE3	0.93	55.67		
Website Quality	WQ1	0.85	33.79	0.92	0.75
	WQ2	0.86	48.28		
	WQ3	0.87	43.62		
	WQ4	0.88	56.35		
Trust in Platform	TR1	0.91	76.94	0.96	0.84
	TR2	0.92	75.79		
	TR3	0.93	82.75		

	TR4	0.90	68.44		
Perceived Risk	PR2	0.93	18.16	0.96	0.88
	PR3	0.92	15.06		
	PR4	0.96	38.93		
Perceived Benefit	PB1	0.89	53.44	0.91	0.76
	PB2	0.86	43.41		
	PB3	0.87	34.51		
Investment Intention	IV1	0.92	54.21	0.94	0.84
	IV2	0.93	66.35		
	IV3	0.91	60.41		

Table 3. Reliability and Convergent Validity Analysis

Reliability assesses how well the items measured for each construct correlate to each other, and it is measured by examining whether each construct's composite reliability has exceeded 0.7 (Chin et al. 2003). Table 3 shows that the composite reliability all of the constructs exceeded 0.9, suggesting a desirable degree of reliability (Chin et al. 2003).

Convergent validity assesses the degree to which the items are related to the construct as theoretically predicted, and it is measured by checking the item loading values and the average variance extracted (AVE) for each construct. Table 3 shows that the factor loading value of each item is above 0.85 and the *T* value is significantly high. In addition, the AVE of each construct has exceeded 0.5, illustrating a desirable degree of convergent validity (Pavlou and Fygenson, 2006).

Discriminant validity assesses the differentiation between constructs, and it is analyzed as follows: the square root of the AVE of each latent variable from its indicators should exceed that construct's correlation with other constructs (Chin et al. 2003). As seen in Table 4 and Table 5, it is clear that the square root of the AVE of each construct is significantly higher than the construct's correlation with other constructs, demonstrating a desirable degree of discriminant validity.

Table 4. Discriminant Validity Analysis

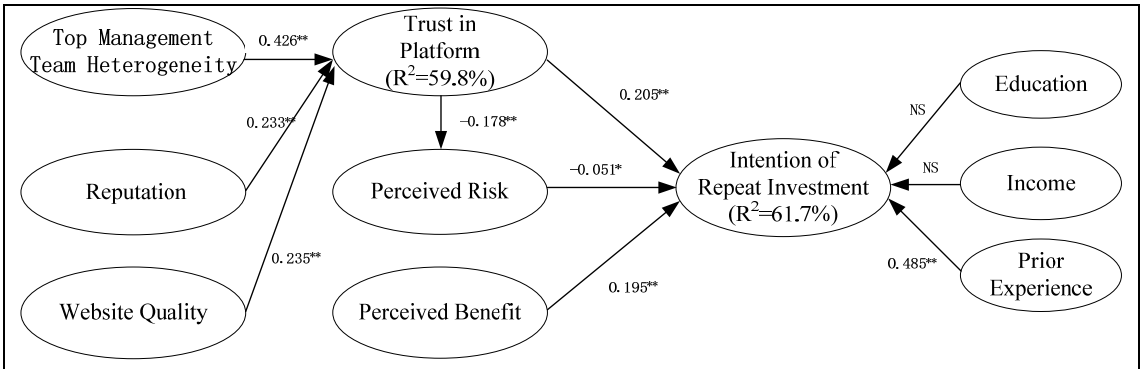
	TMT	RE	WQ	TR	PR	PB	IV
Top Management Team Heterogeneity (TMT)	*0.94*						
Reputation (RE)	0.58	*0.92*					
Website Quality (WQ)	0.64	0.61	*0.87*				
Trust in Platform (TR)	0.69	0.62	0.64	*0.92*			
Perceived Risk (PR)	-0.06	-0.18	-0.06	-0.17	*0.94*		
Perceived Benefit (PB)	0.59	0.50	0.56	0.52	-0.01	*0.87*	
Investment Intention(IV)	0.63	0.59	0.67	0.63	-0.17	0.58	*0.92*

Note: Diagonal italic values represent the square roots of AVE of each construct

Table 4. Discriminant Validity Analysis

Structural Model Analysis

The structural model was examined in SmartPLS to analyze the path relationship between the constructs. The bootstrapping re-sampling method was applied to derive valid standard errors (*T*-values) of the parameter estimates (Temme et al., 2006). In order to account for other variables that may have had an impact on investment intention, the aspects of age, education, income, and prior experience of the investors were included. Figure. 2 illustrates the analysis results of the structural model.



*Notes: **p<0.01; *p<0.05; NS not significant*

Figure 2. Structural Model Analysis Results

As illustrated in Figure 2, top management team heterogeneity is positively related to investor trust in a platform at the 0.01 significance level (β = 0.426, p < 0.01). This supports Hypothesis H1. Figure 2 shows that reputation is positively related to trust in the platform at the 0.01 significance level (β = 0.233, p < 0.01), providing support for Hypothesis H2. These results suggest that the reputation of a platform can increase investor trust in the platform. Furthermore, website quality is also positively related to investor trust in a platform at the 0.01 significance level (β = 0.235, p < 0.01). This supports Hypothesis H3, demonstrating that ease of use, clear navigational design, and updated information can all enhance investor trust in a platform.

As hypothesized in H4, investor trust in a platform is inversely related to the perceived risk of investing through the platform at the 0.01 significance level (β = 0.178, p < 0.01). This illustrates that improving investor trust in a platform can significantly decrease perceived risk.

As hypothesized in H5, trust in the platform is positively related to lenders' repeat investment intention at the 0.001 significance level (β = 0.205, p < 0.01). Furthermore, perceived risk is inversely related to lenders' repeat investment intention at the 0.05 significance level (β = -0.051, p < 0.05), which supports hypothesis H6. This demonstrates that lenders are more likely to invest in platforms if they trust them and perceive less risk.

As hypothesized in H7, perceived benefit is positively related to lenders' repeat investment intention at the 0.01 significance level (β = 0.195, p < 0.01). This is consistent with findings in previous research, suggesting that lenders are more likely to invest in P2P lending platforms if they expect a high degree of benefit from the platform compared to a traditional financial platform.

With regard to the control variables, Figure 2 shows that prior investment experience is positively related to investment intention, while educational background and income level are not significantly related to repeat investment intention.

The R square of the endogenous variables was then examined. As illustrated in Figure 2, top management team heterogeneity, reputation, and website quality together explained 59.8% of trust variance in the platform; the R square of repeat investment intention is 61.7%, suggesting a good explanatory power of the research model.

Discussion and Implications

Summary of Results

This study helps outline the decision-making process of lenders in which trust, perceived risk, and perceived benefit influence repeat investment intention in online P2P lending platforms. The study shows that top management team heterogeneity, reputation, and website quality increase lender trust in an online P2P lending platform. Lender trust, in turn, reduced perceived risk and increased intention to repeatedly invest, even when prior experience was included in the model. Perceptions of the organizational factor and IT factor (top management team heterogeneity and website quality, respectively) were the strongest predictors of lender trust in the platform. The marketing factor (reputation) played a weaker role. Consistent with our expectations, the three signals indirectly

influenced perceived risk through trust in the platform. Finally, perceived benefit was shown to be positively related to repeat investment intention.

Theoretical Implications

Based on the findings of this study, several points are worthy of consideration for theoretical development. First, although previous studies have used a trust-based model to predict lender investment intention (e.g., (Chen et al. 2014), (Zhang et al. 2014)), only a limited amount of research has been conducted to test the role of trust in repeat investments in the online P2P lending context. This study developed a comprehensive theoretical model that integrated trust in the platform, perceived risk, and perceived benefits, as well as a range of important signals for enhancing lender trust in the platform, namely TMT heterogeneity, website quality, and reputation. By distinguishing among these concepts both conceptually and empirically, this study has provided important insight into their distinct roles in the online P2P lending investment decision-making process.

Second, the study found that lenders' trust in a platform helps reduce their concern about suffering a loss when investing in the platform; this benefit is discerned based on lender reactions to excellent reputation, good website quality, and a strong top management team background. This finding has important implications for P2P lending platforms in general where the legal environment is not yet sound, and hence existing or new market-driven mechanisms may prove as effective as legal regulation. The research findings further enhance the extant literature by revealing the mediating mechanism of trust and perceived risk on an individual's investment intention in online P2P lending platforms.

Third, the study is another contribution to research on trust in the context of P2P lending platforms. While past research mostly focused on lender trust in borrowers, this study examined lender trust in the platform itself, and empirical results show that lender trust in the platform as a whole tends to increase repeat investment intention. This finding suggests that trust may transfer from a platform to the community of borrowers on the platform. More research will be needed to identify factors that facilitate the trust transfer process in P2P lending platforms.

Implications for Practice

This study also highlights several important practical implications, especially for the business operators and developers of P2P lending platforms and. First, operators of such platforms need to build trust by signaling credibility to P2P lenders. For example, in addition to disclosing details about their TMT background information on the website, they need to build reputation and brand power, which can assure lenders that the platform is credible and reliable. Moreover, operators need to maintain high-quality websites as lenders may view website quality as an extrinsic signal, using it as a surrogate for perceived credibility. Operators can publicize their initial and ongoing efforts to develop a high-quality platform through operating report releases, social media, and consumer surveys soliciting feedback on user experience. Industry awards and recognition can provide external confirmation and further strengthen credibility.

The second implication is that because perceived risk was identified as a significant factor that reduces lender intention to continue lending on a platform, strict risk control methods and mechanisms must not be underestimated or ignored. Platform operators should do their utmost to bring risks from online transactions and loan defaults under control. More specifically, they should maintain and reinforce an image of reliability. For instance, they can provide third-party services, such as insurance and loan guarantees, to reduce risks.

Finally, the rapid development of P2P lending platforms makes it relatively easy to switch from one platform to another. Trust in a platform and perceived benefit are significant drivers of repeat investment intention, but these perceptions are extremely fluid and dynamic, which places the onus on the operators to continually improve platform quality. This is because any shortcomings in comparison to a competitor could result in lost investment, even if the platform is perceived to be beneficial. Smaller P2P lending platforms, with fewer resources at their disposal to gain lender trust, may consider operating their platforms through strategic alliances with well-known institutions, such as venture capital firms and banks.

Limitations

The results of this study should be interpreted carefully in light of certain limitations. First, the sample only included active online P2P lenders. The results may have been influenced by self-selection bias. Lenders who had already ceased to invest in online P2P lending platforms might have different perceptions about the trust in a platform, risks, and benefits. Therefore, the results should be interpreted as only explaining the repeat investment intention of current online P2P lenders. Establishing whether the results can be generalized to disaffected lenders will require additional research. Second, as the data are cross-sectional, all of the statistically supported relationships can only be viewed as tentative. Third, although common method bias was assessed based on Harman's one-factor test (Podsakoff and Organ 1986), which showed that common method variance was not a major concern, statistically, common method bias cannot absolutely be ruled out.

Conclusion

Online P2P lending has emerged as an immense success story, providing an interesting context for researchers. Motivated by the importance of trust in the platform, perceived risk, and perceived benefit, as well as the significant gap in the previous literature regarding continual investment intention, this study identifies a comprehensive set of perceived credibility signals and explains their effect on lenders' continued investment intention in P2P lending platforms. According to the findings of the study, different credibility signals do have different effects on the perceived benefit and perceived risk of investment. These findings have not only enhanced our understanding of the decision-making process of online P2P lenders regarding investment and the nuanced differential effects of perceived credibility signals, but also provide important information to P2P lending platform operators. They can leverage these results to better motivate lenders; more importantly, with a better understanding of the relative strength of each signal, they will be more effective at enhancing a specific aspect of management of the platform.

Acknowledgement

This work was supported in part by the grants from the National Natural Science Foundation of China (No. 71301172, 71301035, and No. 71571180) and National Social Science Foundation of China (No. 14AZD045).

Table A1. Survey Instrument

Constructs	Items
Top management team heterogeneity (TM)	TM1: The top management team has diverse prior industry experience.
	TM2: The top management team has educational background heterogeneity.
	TM3: The top management team has functional background heterogeneity.
Reputation (RE)	RE1: The P2P lending platform I chose is well known.
	RE2: The P2P lending platform I chose has a good reputation.
	RE3: I'm familiar with the name of the P2P lending platform I chose.
Website quality(WQ)	WQ1: The website of the P2P platform which I chose is easy to use.
	WQ2: The website of the P2P platform which I chose is well designed for users.
	WQ3: The website of the P2P platform which I chose provides sufficient and reliable information.
	WQ4: The website of the P2P platform which I chose provides up-to-

	date information.
Trust in platform (TR)	TR1: The platform which I chose is able to protect the interests of lenders.
	TR2: The systems and policies implemented by the platform which I chose protect lenders.
	TR3: The platform which I chose tries its best to satisfy the requests and needs of its users.
	TR4: The platform which I chose is trustworthy.
Perceived risk (PR)	PR2: Investing on this platform would involve more financial risk compared to more traditional forms.
	PR3: If I were to bid for a loan request on this platform, I would be concerned about whether the platform would ensure transaction security.
	PR4: If I were to bid for a loan request on this platform, I would be concerned about whether the platform would protect me against fraudulent borrowers.
Perceived benefit (PB)	PB1: The turnover time of my investment is short if I lend to a borrower on this platform.
	PB2: Lending to a borrower on this platform is a good opportunity.
	PB3: I think this platform is convenient.
Investment intention (IV)	IV1: Given the chance, I would consider lending money to borrowers on the same platform in the future.
	IV2: It is likely that I will bid for loan requests on the same platform in the near future.
	IV3: Given the opportunity, I intend to place a bid on the same platform.

Table A1. Survey Instrument

References

Agrawal, A. K., Catalini, C., and Goldfarb, A. 2013. "Some Simple Economics of Crowdfunding," *National Bureau of Economic Research Working Paper Series* (No. 19133).

Ajzen, I., & Fishbein, M. 1980.*Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, NJ: Prentice-Hall.

Akerlof, G. A. 1970. "The Market For "Lemons": Quality Uncertainty and the Market Mechanism," *The Quarterly Journal of Economics* (84:3), pp. 488-500.

Ba, S. L., and Pavlou, P. A. 2002. "Evidence of the Effect of Trust Building Technology in Electronic Markets: Price Premiums and Buyer Behavior," *MIS Quarterly* (26:3), pp. 243-268.

Benlian, A., and Hess, T. 2011. "The Signaling Role of It Features in Influencing Trust and Participation in Online Communities," *International Journal of Electronic Commerce* (15:4), pp. 7-56.

Boulding, W., and Kirmani, A. 1993. "A Consumer-Side Experimental Examination of Signaling Theory - Do Consumers Perceive Warranties as Signals of Quality," *Journal of Consumer Research* (20:1), pp. 111-123.

Burtch, G., Ghose, A., and Wattal, S. 2013. "An Empirical Examination of the Antecedents and Consequences of Contribution Patterns in Crowd-Funded Markets," *Information Systems Research* (24:3), pp. 499-519.

Chen, D. Y., Lai, F. J., and Lin, Z. X. 2014. "A Trust Model for Online Peer-to-Peer Lending: A Lender's Perspective," *Information Technology & Management* (15:4), pp. 239-254.

Chiles, T. H., and McMackin, J. F. 1996. "Integrating Variable Risk Preferences, Trust, and Transaction Cost Economics," *Academy of Management Review* (21:1), pp. 73-99.

Chin, W. W., Marcolin, B. L., and Newsted, P. R. 2003. "A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results from a Monte Carlo Simulation

Study and an Electronic-Mail Emotion/Adoption Study," *Information Systems Research* (14:2), pp. 189-217.
Chiu, C. M., Hsu, M. H., Lai, H. C., and Chang, C. M. 2012. "Re-Examining the Influence of Trust on Online Repeat Purchase Intention: The Moderating Role of Habit and Its Antecedents," *Decision Support Systems* (53:4), pp. 835-845.
Chowdhury, A., Frieder, O., Grossman, D., and McCabe, M. C. 2002. "Collection Statistics for Fast Duplicate Document Detection," *ACM Transactions on Information Systems* (20:2), pp. 171-191.
Cohen, B. D., and Dean, T. J. 2005. "Information Asymmetry and Investor Valuation of Ipos: Top Management Team Legitimacy as a Capital Market Signal," *Strategic Management Journal* (26:7), pp. 683-690.
Collier, B., Hampshire, R., and Acm. 2010. "Sending Mixed Signals: Multilevel Reputation Effects in Peer-to-Peer Lending Markets," in *Proceedings of 2010 ACM Conference on Computer Supported Cooperative Work*, pp. 197-206.
Connelly, B. L., Certo, S. T., Ireland, R. D., and Reutzel, C. R. 2011. "Signaling Theory: A Review and Assessment," *Journal of Management* (37:1), pp. 39-67.
DeLone, W. H., and McLean, E. R. 2003. "The Delone and Mclean Model of Information Systems Success: A Ten-Year Update," *Journal of Management Information Systems* (19:4), pp. 9-30.
Gefen, D. 2002. "Reflections on the Dimensions of Trust and Trustworthiness among Online Consumers," *SIGMIS Database* (33:3), pp. 38-53.
Gefen, D., Karahanna, E., and Straub, D. W. 2003. "Trust and Tam in Online Shopping: An Integrated Model," *MIS Quarterly* (27:1), pp. 51-90.
Greiner, M. E., and Wang, H. 2010. "Building Consumer-to-Consumer Trust in E-Finance Marketplaces: An Empirical Analysis," *International Journal of Electronic Commerce* (15:2), pp. 105-136.
Hambrick, D. C., and Mason, P. A. 1984. "Upper Echelons - the Organization as a Reflection of Its Top Managers," *Academy of Management Review* (9:2), pp. 193-206.
Herzenstein, M., Sonenshein, S., and Dholakia, U. M. 2011. "Tell Me a Good Story and I May Lend You Money: The Role of Narratives in Peer-to-Peer Lending Decisions," *Journal of Marketing Research* (48), pp. S138-S149.
Higgins, M. C., and Gulati, R. 2006. "Stacking the Deck: The Effects of Top Management Backgrounds on Investor Decisions," *Strategic Management Journal* (27:1), pp. 1-25.
Hoffman, D. L., Novak, T. P., and Peralta, M. 1999. "Building Consumer Trust Online," *Communications of the ACM* (42:4), pp. 80-85.
Hong, I. B., and Cho, H. 2011. "The Impact of Consumer Trust on Attitudinal Loyalty and Purchase Intentions in B2c E-Marketplaces: Intermediary Trust Vs. Seller Trust," *International Journal of Information Management* (31:5), pp. 469-479.
Hsu, M. H., Chang, C. M., Chu, K. K., and Lee, Y. J. 2014. "Determinants of Repurchase Intention in Online Group-Buying: The Perspectives of Delone & Mclean Is Success Model and Trust," *Computers in Human Behavior* (36), pp. 234-245.
Hsu, M. H., Chang, C. M., & Chuang, L. W. 2015. "Understanding the Determinants of Online Repeat Purchase Intention and Moderating Role of Habit: The Case of Online Group-buying in Taiwan," *International Journal of Information Management*, 35(1): 45-56.
Jarvenpaa, S. L., Tractinsky, N., and Vitale, M. 2000. "Consumer Trust in an Internet Store," *Information Technology and Management* (1:1), pp. 45-71.
Kim, D. J., Ferrin, D. L., and Rao, H. R. 2008. "A Trust-Based Consumer Decision-Making Model in Electronic Commerce: The Role of Trust, Perceived Risk, and Their Antecedents," *Decision Support Systems* (44:2), pp. 544-564.
Kirmani, A., and Rao, A. R. 2000. "No Pain, No Gain: A Critical Review of the Literature on Signaling Unobservable Product Quality," *Journal of Marketing* (64:2), pp. 66-79.
Koufaris, M., and Hampton-Sosa, W. 2004. "The Development of Initial Trust in an Online Company by New Customers," *Information & Management* (41:3), pp. 379-U375.
Lester, R. H., Certo, S. T., Dalton, C. M., Dalton, D. R., and Cannella, A. A. 2006. "Initial Public Offering Investor Valuations: An Examination of Top Management Team Prestige and Environmental Uncertainty," *Journal of Small Business Management* (44:1), pp. 1-26.
Lin, M. F., Prabhala, N. R., and Viswanathan, S. 2013. "Judging Borrowers by the Company They Keep: Friendship Networks and Information Asymmetry in Online Peer-to-Peer Lending," *Management Science* (59:1), pp. 17-35.
Mayer, R. C., Davis, J. H., and Schoorman, F. D. 1995. "An Integrative Model of Organizational Trust," *Academy of Management Review* (20:3), pp. 709-734.

McKnight, D. H., Choudhury, V., and Kacmar, C. 2002. "Developing and Validating Trust Measures for E-Commerce: An Integrative Typology," *Information Systems Research* (13:3), pp. 334-359.
Pavlou, P. A., & Fygenson, M. 2006. "Understanding and Predicting Electronic Commerce Adoption: An Extension of the Theory of Planned Behavior," *MIS Quarterly*, (30:1), pp. 115-143.
Pavlou, P. A., and Gefen, D. 2004. "Building Effective Online Marketplaces with Institution-Based Trust," *Information Systems Research* (15:1), pp. 37-59.
Podsakoff, P. M., and Organ, D. W. 1986. "Self-Reports in Organizational Research - Problems and Prospects," *Journal of Management* (12:4), pp. 531-544.
Qureshi, I., Fang, Y. L., Ramsey, E., McCole, P., Ibbotson, P., and Compeau, D. 2009. "Understanding Online Customer Repurchasing Intention and the Mediating Role of Trust - an Empirical Investigation in Two Developed Countries," *European Journal of Information Systems* (18:3), pp. 205-222.
Spence, M. 1976. "Informational Aspects of Market Structure - Introduction," *Quarterly Journal of Economics* (90:4), pp. 591-597.
Stiglitz, J. E., and Weiss, A. 1981. "Credit Rationing in Markets with Imperfect Information," *American Economic Review* (71:3), pp. 393-410.
Sun, H. S. 2010. "Sellers' Trust and Continued Use of Online Marketplaces," *Journal of the Association for Information Systems* (11:4), pp. 182-211.
Temme, D., Kreis, H. and Hildebrandt, L. 2006. *PLS Path Modeling-A Software Review*, SFB 694 discussion paper, Institute of Marketing, Humboldt-University Berlin, Berlin.
Verhagen, T., Meents, S., and Tan, Y. H. 2006. "Perceived Risk and Trust Associated with Purchasing at Electronic Marketplaces," *European Journal of Information Systems* (15:6), pp. 542-555.
Vogel, R., Puhan, T. X., Shehu, E., Kiger, D., and Beese, H. 2014. "Funding Decisions and Entrepreneurial Team Diversity: A Field Study," *Journal of Economic Behavior & Organization* (107), pp. 595-613.
Wells, J. D., Valacich, J. S., and Hess, T. J. 2011. "What Signal Are You Sending? How Website Quality Influences Perceptions of Product Quality and Purchase Intentions," *MIS Quarterly* (35:2), pp. 373-396.
Yoon, S.-J. 2002. "The Antecedents and Consequences of Trust in Online-Purchase Decisions," *Journal of Interactive Marketing* (16:2), pp. 47-63.
Zhang, T. W., Tang, M. F., Lu, Y., and Dong, D. Y. 2014. "Trust Building in Online Peer-to-Peer Lending," *Journal of Global Information Technology Management* (17:4), pp. 250-266.
Zimmerman, M. A. 2008. "The Influence of Top Management Team Heterogeneity on the Capital Raised through an Initial Public Offering," *Entrepreneurship Theory and Practice* (32:3), pp. 391-414.
Zimmerman, M. A., and Zeitz, G. J. 2002. "Beyond Survival: Achieving New Venture Growth by Building Legitimacy," *Academy of Management Review* (27:3), pp. 414-431.