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PROFIT VS. NON-PROFIT BUSINESS BASED ON P2P LENDING: A CROSS-COUNTRY MULTIPLE CASE STUDY

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Abstract
People-to-People (P2P) lending allows individuals to lend and borrow directly among each other online. Previous research mainly focuses on a single P2P lending marketplace – Prosper.com. This paper uses a multiple-case study approach to explore four P2P lending marketplaces. The study provides in-depth explanations on how different P2P lending marketplaces operate in different business models and in different countries. Our study thus extends current understanding about different operation models of P2P lending marketplaces, and suggests how future research should be done to cover more P2P lending platforms. We also contribute to the literature by indicating the interesting research questions originated from the cross-case analysis.

Keywords: Case study, P2P lending, Non-profit, Cross-country

Introduction
Internet has facilitated the creation of many business innovations, such as E-business, online auction, third-party payment. Today, online people-to-people (P2P) lending (also called Peer-to-Peer) is an important new example. Online P2P lending allows individuals to lend and borrow directly among each other without the mediation of a creditor bank institution [5]. The first P2P lending company to launch was Zopa in UK in February 2005. Today, there are 30 Online P2P lending markets in more than 10 countries worldwide, such as Prosper in the US, Zopa in UK and Japan, CommunityLend in Canada, and PaiPaiDai in China.

P2P lending marketplaces provide a venue where lenders and borrowers can connect with each other. Usually, the transactions start when a borrower creates and publishes a loan request (called listing) that describes the purpose and conditions of the desired loan. Lenders on the marketplace can search for listings and then bid on listings. Most marketplaces have an auction-like process in which the lender willing to provide the lowest interest rate "wins" the borrower's loan. After a borrower gets the loan, re-payment activities and collection activities will start.

Like other online businesses, the fundamental problem in online P2P lending is information asymmetry between the lenders and the borrowers [5, 9, 11], which consequently causes problem of trust, risk control, incentive [8, 12]. Prior literature has examined these problems, and most studies use social capital theory to explain the phenomenon [2, 5, 7]. However, most research only utilizes Prosper’s transaction data (provided to public by Prosper.com). A little research uses transaction data of other marketplaces, compare different operation models and the marketplaces in different countries. That influences the external validity of these studies.

Understanding the above information is critical for both research and practice. For example, borrowers can evaluate lenders’ credit scores in Propsper.com, but people do not have such a credit score in many developing country. Thus, we need to examine how P2P leading operates in different countries.

On the other hand, some non-profit organizations such as Kiva.com also operate P2P lending to help poor people in developing countries, but their business models are quite different from Prosper’s model. In Prosper, both the company and lenders make profits, so incentive is not a problem. Further, borrowers and lenders of Prosper must be the US residents, so they can get legal protection from the government or other institutions. In contrast, both marketplace and lenders do not get any profits in Kiva, and usually borrowers and lenders live in different countries. Thus, we also need to explore different P2P leading business models.

This paper aims to answer two questions:

1) How does P2P leading operate in different countries?

2) How do different P2P leading business models work?

The rest of the paper is organized as follows. First, we describe methodology, including how to select case sites and collect data. Further, we conduct the within-case analysis, followed by cross-case analysis. Finally, we conclude with a discussion that summarizes implications for both research and practice as well as limitation and future research.
Methodology

A multiple-case study approach is used to explore our research question. The objective of the case study approach is to provide more in-depth explanations on why and how different P2P lending marketplaces operate in different business model and different countries. The unit of analysis is the marketplace. According to the guidelines of multiple-case study research and exemplars [e.g., 1, 6], the selection of the research sites should be done so as to allow substantial variations in the core theoretical constructs.

Case site selection

Given that this paper is about comparing different P2P lending model in different countries, two key dimensions are country and business model. By combining two dimensions into a two-by-two quadrant, we first created the following classification (Figure 1). In country dimension, we differentiate developed and developing country, and use the US and China as two examples. In the dimension of business model, we present profit vs. non-profit organization. Based on the classification, we choose four case sites: Prosper, Kiva, PaiPaiDai, and Wokai.

This choice follows a combination of literal and theoretical replication strategies to improve the external validity of our study [13]. Theoretical replication refers to a multiple-case selection strategy in which the cases vary in terms of expected outcomes. Literal replication, on the other hand, requires selecting cases that are similar in certain characteristics and thus lead the researcher to expect similar results. We expect the marketplaces in the same dimension to show convergent behaviors (literal replication), and marketplaces in the different dimensions to show varied behaviors (theoretical replication).

Data collection and analysis

We collected data using the following methods: browsing website of these P2P lending marketplace, collecting other third party report, and role-playing – register as borrower or lender to try their service. Data were analyzed in two stages: within-case analysis and cross-case analysis [13]. A within-case analysis was performed first to allow the unique patterns of each case to emerge and to provide researchers with an understanding of each case. Second, a cross-case analysis was conducted to understand the variations across cases and to find alternative or novel explanations for findings from the within-case analysis.

Within-Case analysis

This section presents a narrative of each case. We focus on the following characteristics: background, operation model, and risk control.

1) Prosper (www.prosper.com)

Background – Prosper was founded in February 5, 2006. Prosper is the world's largest P2P marketplace with more than 980,000 members and over $201,000,000 in funded loans (Data in 24/7/2010). Prosper's initial product was an unsecured 3-year loan for up to $25,000. Lenders and borrowers must be US residents. In 2008 and 2009, Prosper was closed down twice by the U.S. Securities and Exchange Commission (SEC) due to violation of the Securities Act. Prosper's registration statement with the SEC was declared effective later, and the marketplace resumed lending on July 13, 2009.

Operation model – Borrowers can list loan requests between $1,000 and $25,000 on Prosper. They set the maximum rate they are willing to pay an investor for the loan, and tell their story. People and institutional investors register on Prosper as lenders, then set their minimum interest rates, and bid in increments of $25 to $25,000 on loan listings they select.

Once the auction ends, Prosper takes the bids with the lowest rates and combines them to facilitate the funding of one simple loan to the borrower. Prosper handles all on-going loan administration tasks including loan repayment and collections on behalf of the matched borrowers and investors - every month, Prosper will make an automatic withdrawal from the borrower’s bank account for the amount of monthly payment. Prosper also issues what are called "Notes" to all the winning bidders when the auction ends, Prosper members are then able to trade Notes with other members on the Folio Investing Note Trader platform.

Risk control – To ensure the security of everyone on the site, borrowers will be asked to provide personal information, including Social Security number, so Prosper can check identity and obtain...
borrowers' credit score. In addition to criteria commonly used by institutional lenders (e.g., banks), such as credit scores and histories, Prosper lenders can consider borrowers' personal stories, endorsements from friends, and group affiliations. Further, Prosper provides the estimated return to calculate the risk of investment. For example, Prosper provides a loss rate to help lenders understand potential risk. The loss rate is based on the historical performance of borrowers on Prosper loans with similar characteristics. Finally, Prosper uses professional collection agencies to collect borrowers' missing payment.

2) Kiva (www.kiva.org)

**Background** – Kiva was founded in October 2005, it allows people to lend money via the Internet to poor people in developing countries around the world. As of July 24, 2010, Kiva has distributed $151,389,775 in loans from 470,113 lenders, which come from 200 different countries. A total of 208,137 loans have been funded to poor people in 53 different countries. The average loan size is $386.35. Its current repayment rate is 98.78%.

**Operation model** – Kiva faces millions of poor people in different countries, so how to manage the local lenders in a global system is a new challenge. Kiva solves this problem by working with local Microfinance Institution (MFI).

a. Kiva Partners with a MFI
Kiva partners with existing MFI (also called Field Partners) around the world. These organizations that have expertise in microfinance and a mission to alleviate poverty facilitate Kiva loans on the ground. MFIs know their local area and clients and do all the leg work required to get Kiva loans to the borrowers posted on Kiva.org.

b. MFIs Disburse Loans and Upload Stories
MFIs disburse loans as soon as they are needed. They can do this up to 30 days before the loan request is posted on Kiva's website or 30 days after. The MFI collects borrowers' stories, pictures and loan details and uploads them to Kiva.

c. Lenders Browse Profiles and Lend
Lenders browse loan requests and select which ones they'd like to fund. Lenders can fund as little as $25 and as much as the entire amount of the loan. Kiva aggregates funds from Kiva lenders and provides them to the MFI.

d. Kiva Disburses Lenders' Funds to the MFI
The MFI uses the funds to replenish the loan they've already made to the borrower.

e. Borrowers Repay Their Loans

The MFI collects repayments from Kiva borrowers as well as any interest due and lets Kiva know if a repayment was not made as scheduled. Interest rates are set by the MFI, and that interest is used to cover the MFI's operating costs. Kiva doesn't charge interest to its MFIs and does not provide interest to lenders.

f. Kiva Provides Repayments to Lenders
If there is already money in the MFI's account, or once their payment is received, Kiva uses these funds to credit the appropriate lenders with their loan repayments. Lenders can re-lend their funds to another borrower, donate their funds to Kiva (to cover operational expenses), or withdraw their funds via PayPal.

**Risk control** – As many players participated in Kiva, lending to the poor online involves 3 levels of risk:

a. Lender Risk
Each borrower is screened by a local Kiva MFI before being posted on Kiva's website. The MFI looks at a variety of factors (past loan history, village or group reputation, feasibility of business idea, etc) before deeming the lender as credit worthy. However, a number of factors can result in borrowers defaulting: Business issues (e.g. crop failure), health issues (e.g. malaria, HIV/AIDS), other issues (e.g. theft). If a lender defaults, MFIs pursue collections according to their normal practices.

b. MFI Risk
Working with MFIs increases new institutional risks. MFIs could have bankruptcy, fraud (e.g. staff members at the MFI may embezzle funds), poor operations (e.g. The MFI may have poor methodologies for screening lender or collecting repayments). Kiva screens, rates and monitors each MFI, Kiva assigns each MFI a 1-Star (higher risk) to 5-Star (lower risk) Risk Rating. The amount of money a MFI can have outstanding (Credit Limit) with Kiva is based on its Risk Rating. And Kiva stops cooperation with high risk MFIs.

c. Country Risk
When lending internationally, it is important to consider "macro-level" risks: Economic (e.g. a large currency devaluation), political (e.g. related policies change in the developing world), natural disasters such as a tsunami or drought. Kiva currently targets a country limit of no more than 10% of total loans outstanding to help ensure a balanced portfolio. In certain instances, guaranty mechanisms may be used in excess of this limit on a case by case basis.
3) PPDai (www.ppdai.com)

Background – PPDai, China’s first and leading P2P lending network was founded in Shanghai, August 2007. Company reports over 2.5 million RMB in loans facilitated and over 80,000 user registrations since its official launch.

Operation model – PPDai has a very similar operation model as Prosper. After registration, borrowers can create loan listing, set the interest rate they’re willing to pay and that interest rate may even get bid down, and then write a short description about how you anticipate using the loan proceeds. Once the listing is live on the marketplace, lenders will be able to view and bid on it. If a listing ends with enough bids to equal the requested loan amount, a borrower can decide whether or not he/she wishes to take the loan at the ending interest rate. If a borrower wants the loan, funds will be deposited into his/her bank account, and an email will be sent to all lenders. After a borrower receive loan, PPDai will send email, SMS and make phone call to acknowledge borrowers to make payment every month.

Risk control – As there is no official credit system in China, it is quite difficult to evaluate borrowers online. First, PPDai intends to reduce the risk through encouraging lending between friends or friends of friends. It’s common in China that people often loan small amount of money in casual way. PPDai hopes to make it standardized and more efficient. Furthermore, PPDai is developing its own personal credit assessment system. The credit score is mainly determined by loan history and identification, such as provide ID, own video, education certification, etc. Interestingly, PPDai utilizes Taobao’s (the biggest C2C E-business website in China) credit score when Taobao’s members borrow money in PPDai.

4) Wokai (www.wokai.org)

Background - Wokai was founded in March 2007. It allows people to contribute directly to microfinance institutions in China which in turn lend the money to borrowers in rural China. It is a non-profit organization based in Oakland, with core operations in Beijing, supported by individual donors, corporate sponsorships, fundraising events and grants. Wokai has grown to 12 Chapters across the US, Canada, and China with 200+ interns and volunteers, 10 corporate sponsors, and 2 MFIs in Inner Mongolia and rural Sichuan. Since the website launch in 2008, Wokai has raised over US$169,000 in loan capital and empowered over 300 borrowers in China to start small businesses.

The historical on-time repayment rate at Wokai’ exceeds 98%.

Operation model – Similar as Kiva, Wokai allows accredited MFI in China to post profiles of qualified local borrowers on its website. Lenders browse and choose a borrower they wish to fund. Wokai aggregates loan capital from individual lenders and transfers it to the appropriate MFIs to disburse to the borrower chosen by the lender. As the borrowers repay their loans, the MFIs remit funds back to Wokai and the lender is alerted of this repayment. Once the loan is repaid, the Wokai lenders can re-loan it to another borrower.

Risk control – In order to decrease risk, Wokai hired a microfinance consultant to help Wokai create its MFI due-diligence system and investment committee structure for partner approval and monitoring. Wokai’s due-diligence team travels to each potential MFI to compile a comprehensive report on its governance, information and accounting systems, risk-assessment policies, loan portfolio and lending activities, performance, and efficiency. To guarantee the validity of written documentation and information presented during the interviews, Wokai randomly reviews the credit files of a minimum of five clients and follows up with personal visits to each client to determine whether credit files match the actual situations in the field and to gauge client perception of MFI performance. Once Wokai begins working with a MFI, the performance of that partner is continuously monitored. Wokai performs semi-annual on-site monitoring visits. Additionally, Wokai requires MFIs to record each distribution and repayment in Wokai’s online systems as well as provide monthly financial reports.

If a recipient does not repay his or her loan, Wokai’s MFI staff will visit that recipient to determine why he or she has overdue repayments, and work with the recipient to remove any obstacles that get in the way of repaying the loan.

Cross-Case analysis

Cases within each category are first compared to each other to discover similarities and variations within each category. This step allows us to develop a general pattern of findings for each of the major categories of constructs in this study.

After we review all the cases, we find all four marketplaces highlight the importance of risk control and implement different methods to solve the problems. For example, they provide plenty of information about borrowers, suggest loan small amount of money. Some marketplaces use collection agency to collect the overdue loan, while others use MFI to manage oversea borrowers.
There are two major differences between American and Chinese P2P lending marketplaces:

1. **Infrastructure** - Here, infrastructure refers to complete credit system and data, developed electric payment platform, and mature law the regulation act of microfinance. Although both government and companies are working on these issues in China, these factors are still the major obstacles of P2P lending development in China.

2. **Culture and tradition** - P2P lending is oriented in China in the history. However, most Chinese borrow/lend money from/to friends in a casual way rather than formal contract. PPdai encourages lending between friends or friends of friends. On one hand, it weakens the problem of risk control [10]. On the other hand, it tries to change the tradition with IT and add more legal factors in our lending culture.

We also find two major differences between profit and non-profit P2P lending marketplaces:

1. The participation of MFI - Usually non-profit organizations hire fewer employees, and minimize operation cost. It is a challenge to manage lenders in different places, which have different cultures, living and working styles, and may not have mature credit system. Thus, using MFI becomes an optimal solution. These organizations have local expertise, and can help P2P lending marketplace manage distant borrowers effectively.

2. Makes profits or covers operation cost - Self-sustainability is critical for all the P2P lending marketplaces, even it is a non-profit organization. However, we find that non-profit and profit marketplaces have very different income models (Table 1).

<table>
<thead>
<tr>
<th>Fee or Income</th>
<th>Prosper</th>
<th>Fees Borrowers Pay:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closing fee - The closing fee is a percentage of the amount borrowed and varies by Prosper Rating: AA: 0.50% with no minimum; A-HR: 3.0% or $50, whichever is greater. $15 failed payment fee - If a check or bank draft is returned, or an automated withdrawal fails. Late payment fee - If monthly payment is 15 days late, borrower will be charged a late fee of the greater of 5.00% of the unpaid installment amount, or $15. Late fees are passed on to lenders; Prosper does not retain late fees. Fees Lenders Pay: 1% annual loan servicing fee - The annual servicing fee is accrued daily, and is based on the current outstanding loan principal.</td>
<td>Fees Both Borrowers and Lenders Pay:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collection agency recovery fee - In the event that one of lenders’ loans becomes more than 1 month late, Prosper will assign a professional collection agency to attempt to collect the overdue amount. Each collection agency has its own fee structure, but will only collect a fee for their services if funds are recovered.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PPDai</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fees Only Borrowers Pay:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service fee - The service fee is a percentage of the amount borrowed. 2% for loan period is not bigger than six months, and 4% for loan period is bigger six months. Late payment fee - If monthly payment is 15 days late, borrower will be charged a late fee of the greater of 1.0% of the unpaid installment amount, or 50 RMB.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kiva</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Optional donations its lenders voluntarily pay to the organization. Grants, interest earned on its bank accounts, corporate sponsors and foundations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wokai</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Donation from lenders. Fundraising events and campaigns</td>
<td></td>
</tr>
</tbody>
</table>

**Table 1: Comparison of fee/income**

### Discussion and conclusion

This paper uses a multiple-case study approach to explore P2P lending in different countries and in different business models. The findings have the following research and practice implications.

### Research implications

Prior literature mainly uses social capital theory and Prosper’s transaction data to examine P2P lending. However, we find that borrower/lender of other marketplaces may have very different behaviors and thus create interesting research questions. For example, PPdai does not have a mature credit system, but encourage lending.
from friends, whether these social relationships can compensate the loss of credit scores\cite{3, 4}? How does Chinese culture and environment influence the effect of P2P lending? Non-profit uses MFI to manage local borrowers. Under this circumstance, how does MFI influence the social network, the borrowers that they represent, and the performance of P2P lending marketplace?

**Practice implication**

Since the first P2P lending was founded in 2005, P2P lending sites have cropped up all over the world in five years. P2P lending simplifies loan process and makes many small-amount lending possible. Further, it has more important meaning for poverty alleviation. Take China as an example. Over the past 25 years, China's economic boom has brought prosperity to many, but over 300 million people still live on less than $1 a day. P2P lending offers one of the best solutions to alleviating poverty by empowering beneficiaries to help themselves. P2P lending differs from poverty alleviation methods of the past in that it empowers beneficiaries to help themselves. Loans enable people to start small businesses, increase their income, and pay for vital needs like education and healthcare, eventually lifting their families out of poverty. This creates a positive cycle of change as loans are recycled year after year to support new recipients. Meanwhile, by auditing institutions and tracking every dollar contributed to an institution, P2P lending is developing the transparency crucial for inspiring institutional efficiency and regulatory change for all non-profit institutions.

**Limitation and future research**

The major limitation of this paper is data collection. As all data were collect online, we do not have any intensive interview with the managers or users of these marketplaces, it may cause some biases. The future research could focus on a cross-country or profit vs. non-profit analysis based on transaction data. Both Prosper and Kiva open their data to public, and many online transaction records are also available for other marketplaces. Further, this paper differentiate non-profit and profit P2P lending marketplace, but recently E-bay promote its P2P lending platform – MicroPlace, which provides loan for poor people worldwide, but it also charges interest and pay interest to lenders. Thus, the investigation of these types of P2P lending should be considered in future study.

**Appendix**

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**References**


