Do Social Cause and Social Technology Meet?

Impact of Web 2.0 Technologies on peer-to-peer lending transactions

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Abstract

Microcredit interest costs remain higher than those of commercial banks in spite of significant donor funds, largely owing to transaction costs relative to small loan sizes. With the rise of Web 2.0 and online social interactivity, can these transaction costs be reduced through peer to peer lending? Peer to Peer lending and Web 2.0 have two things in common. The first common denominator is that both of them are rather newcomers in their respective fields and growing fast. The second is that they are both based on mutual and social exchanges between people instead of centrally controlled communications and relationships. The main objective of this paper was to investigate whether they are integrated to support a higher level of social interactions and associations for less (transaction) costs. We find that peer to peer lending consists of diverse websites of microcredit (Kiva, Wokai), social investing (MicroPlace) as well as small loans at market rates (Prosper, Zopa, Lending Club), and even lending between friends and family members (Virgin Money). The paper studies the use of web 2.0 technologies (blogs, interactivity between lenders and buyers, peers' reviews and comments, peers communities and chats) in six such peer-to-peer lending sites. It finds that most of the peer-to-peer lenders are in fact intermediaries between the peers (lender and borrowers) and there is little direct contact between the peers. One website used none of the web 2.0 tools. None of the websites used all the web 2.0 tools. The impact on transaction costs is therefore very little. A discussion of difficulties in establishing platforms in this field and directions for future research are provided.

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During the last three decades, the amazing growth of Microcredit has captured the world's attention. Microfinance Institutions (MFIs) have increased credit availability to the poor and reduced interest rates from those charged by conventional money lenders significantly, by overcoming information asymmetry and monitoring problems by innovative techniques. This has attracted socially responsible investment and the size of the Microfinance Investment market, i.e., investors who would like to finance Microfinance Institutions (MFIs), is considered to be about 4.4 billion Euros in 2006 and should rise to 25 billion Euros by 2015, most of which should come from private investors (Dieckmann, 2007). However, interest costs (including application processing fees, interest rates, opportunity cost of compulsory deposits) remain higher than those of commercial banks in spite of significant donor funds, largely owing to transaction costs associated with small loan sizes. These interest costs remain vary from country to country and vary from 15% to 100%\(^2\). Administrative costs, including traveling from village to village, processing time, etc. represent two-thirds of the costs ((Dieckmann, 2007). Since these high interest costs have poor ethical connotations (Ashta & Bush, 2008), even more social investors may finance microcredit institutions, if the costs of lending could be reduced, notably by lowering their transaction costs component.

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2 The interest rates also vary from author to author: For Example Dieckmann (Dieckmann, R. 2007. Microfinance: An emergin Investment opportunity: Uniting social investment and financial returns. 20. Frankfurt: Deutsche Bank Research. ) suggests a range of 15% to 70%. However, with Compartamos, Mexico having charged 100% the range is increased to 100% in line with Ashta ( Ashta, A. 2009 forthcoming. Microcredit Capital Flows and Interest Rates: An Alternative Explanation. Journal of Economic Issues.).
Along with the financial innovations, the last few years have witnessed major changes in information and communication technologies which have created disruptive and radical innovations. Existing companies such as IBM, Amazon and Google have taken to them profitably. Moreover, new companies such as Facebook, U-tube and Flicker have emerged and caught the attention of the public and financial investors. As shown in Table 1, these companies are valued in millions or billions of dollars. This is accompanied by high market capitalization values in many IT companies who have innovated in this field (see Table 2).

Table 1: IT Companies using Web 2.0 Boom

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>Netflix raised $ 86 million in IPO</td>
</tr>
<tr>
<td>2005</td>
<td>Yahoo! Acquires Flicker for $ 30 to 40 million</td>
</tr>
<tr>
<td>2005</td>
<td>Google pays for $ 1 billion for 5% stake in AOL, implying valuation of $ 20 million</td>
</tr>
<tr>
<td>2007</td>
<td>Microsoft pays $ 240 million for 1.6% of Facebook, implying valuation of $ 15 million</td>
</tr>
</tbody>
</table>

Source: (Shuen, 2008)

These companies have been able to use information technologies to encourage users to create value, providing networks to multiply effects, allowing people to build connections and companies to capitalize on competencies and using new forms of collaborative innovations. As indicated in figure 1 below, Shuen (2008) explains that the new internet technologies have led to democratized innovation, crowdsourcing, eco-system platform innovation and recombinant innovation. The major change in technologies facilitating this is termed "Web 2.0", often called "social technology", This technology includes blogs, interactivity between lenders and buyers, peers' reviews and comments, peers communities and chats. These technologies have reduced transaction costs in a number of ways: automating the procurement process and reducing paperwork; interoperability and multi-user communications; auctions to get best prices; collaborative

Table 2: Market capitalizations of some Information Technology companies

<table>
<thead>
<tr>
<th>Company</th>
<th>Market Capitalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM</td>
<td>$169 billion</td>
</tr>
<tr>
<td>Apple</td>
<td>$156 billion</td>
</tr>
<tr>
<td>Google</td>
<td>$155 billion</td>
</tr>
<tr>
<td>Amazon</td>
<td>$36 billion</td>
</tr>
<tr>
<td>Yahoo</td>
<td>$27 billion</td>
</tr>
</tbody>
</table>

Source: Yahoo Finance, August 20, 2009
planning leading to reduction of inventories; and collaborative design. The spread of these technologies has been influenced by Social Contagion.

Our research question was whether these Web 2.0 techniques have led to a reduction in interest costs or to an increase of credit availability by the lowering of transaction costs and overcoming information asymmetries in novel ways. Have Microfinance Institutions (MFIs) embraced these technologies?

On the Internet, we find a new category of lending companies is indeed emerging, which has been termed "peer to peer lending". The field regroups a few institutions with different missions and different legislative constraints, but all based on the promotion of peer-to-peer contacts. We find that peer to peer lending consists of diverse websites of microfinance (Kiva, Wokai), social investing (MicroPlace) as well as small loans at commercial market rates (Prosper, Zopa, Lending Club), and even lending between friends and family members (Virgin Money). Since academic literature on these sites is non-existent, it is worth documenting them.

This fledging Internet-based peer-to-peer lending industry is evolving rapidly: about $650 million in outstanding debt in 2007 (Lee-St. John, 2008). A rising number of individuals are now looking towards networks of friends or even strangers on the Internet to finance purchases, pay for one-time events (such as weddings or vacations), consolidate debt, finance their small business or pay off a mortgage. The nascent peer-to-peer lending business on the Internet is based on online facilitators and/or intermediaries who enable and encourage social exchange between borrowers who post a request, and lenders who indicate how much and at what interest rate they want to lend. The demand for funds still appears to outstrip supply, mainly because

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lending and borrowing peers very often come from different cultures and territories and consequently do not know each other and hesitate to conclude deals.

The main objective of this paper is to document these sites and investigate whether the peer-to-peer websites have integrated the social networking tools of Web 2.0 to support the social interactions and associations of the peer-peer lending. In other words, the paper aims to scrutinize whether the peer-to-peer websites make use of the social Web 2.0 tools to encourage mutual exchanges and cooperation between peers to lend and borrow money or whether they rather centralize the loan transactions. Is the overall performance leading to lower transaction costs and lower interest rate loans to poor people?

Directed by the above research objective, first, we will analyze the factors which might obstruct or cancel transactions in general and the lending transactions between peers in particular; second, we will present the Web 2.0 tools and their social building potential will be presented; and third, we will present our research.

Information Asymmetry and trust between peers

One of the problems in lending situations is imperfect information: the lender does not know the borrower's situation as well as the borrower does. Within this imperfect information stream, there is a special case of asymmetry of information producing special problems such as adverse selection (Akerlof, 1970) and moral hazard (Stiglitz & Weiss, 1981)

5 and difficulties in monitoring. To make these concepts clear the adverse selection problem occurs before the lending of the money: the lender does not know if the project would create value. The moral hazard problem occurs after the money is lent: the capacity of the borrower to successfully realize the project (ex-ante moral hazard) and if he does succeed in his project, the willingness of the borrower to repay or take the money and run (ex post moral hazard).

Some of these problems can be reduced by regular monitoring. However, such monitoring is expensive and not practical for the small scale of loans given by a lender. Conventional solutions proposed have included the development of guarantees, cautions and the development of intermediaries with private information

6. An often cited example is the

5 The distinction between the two is that adverse selection is the problem faced by an agent before the event while moral hazard is the problem faced after an event Mishkin, F. S. 2004. The economics of money, banking and Financial Markets (7th edition ed.). Paris: Pearson Addison-Wesley.

6 For example, securities intermediaries such as stock exchanges create rules for doing business that add to information flow and to ethical norms for participating and their own credibility and reputation are a function of
creation of stock exchanges who guarantee information flow from a company issuing securities to the investor who has little information on the companies. But there are studies in more specific situations. For example, in the field of property markets, Lützkendorf and Speer (Lutzkendorf & Speer, 2005) propose the creation of a comprehensive building information system. The role of all these information enhancing mechanisms is to increase the information flow so as to reduce risk and increase trust. In a marketing and commercial perspective, guarantees and cautions are often endorsed by (intermediaries’) brands and reputation.

Trust can also provide caution against adverse selection and moral hazard. Trust is defined as perceptual belief that one party respects the intentions, actions, and integrity of another party. The personality of the trusting party, competence and reputation of the trusted party, and finally the governance of the third parties such as legal, auto-regulated or cultural institutions have been identified as major sources of trust. The era of Internet and globalization immediately demonstrates the crucial role that trust plays in transactions, and conversely, how its absence can be a slowing factor in the growth of commerce.

Banks give loans to people based on some amount of trust. The higher the trust, the lower the interest rate. With extremely low trust, there may even be no loans (we can say that interest rate is infinite). The mechanisms of trust used by banks include collateral, certified accounts, regular reporting, and even presence on the board of directors. One way large companies lower interest rates is by bypassing the banks and directly issuing bonds. The public gets higher interest rates than that given by banks on deposits. At the same time, the companies pay lower rates than those charged by banks. One of the reasons large companies can do this is that they overcome the information asymmetries and the inherent mistrust because of their well known brand. Often, this is because they are already present in share markets and the stock exchange watchdogs (SEC in the USA, AMF in France) guarantee information flow and external auditors certify that the information is trustworthy. Although recent scandals have shaken confidence in the auditing system, the governments of various countries have quickly responded by new changes in legislation to reestablish trust (e.g., SOX in the US, NRE in France). Thus, trust is an important issue in loans from banks to companies and loans from the public to large companies.

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fixed and human capital invested in the exchanges Mahoney, P. G. 2002. Information Technology and the Organization of Securities Markets. *Working Papers -- Financial Institutions Center at The Wharton School:* 1. Value would be added to the society (in the Pareto optimality sense) if the adverse selection problem could be resolved by the provision of information. However, a free rider problem emerges if people with information provide this publicly. So some intermediaries (like banks) prefer to keep the information privately.

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Large companies gain trust due to their reputation and infrastructure. However, till recently, small firms and individuals faced large transaction and information asymmetry costs mainly because people didn't know them and so would not lend directly to them. They preferred to lend to banks that they knew. The banks, having private information on these firms and individuals, then assessed the risk of each borrower before lending. However, the banks were not used to taking high risks for small amounts, even at high rates because of usury law limitations or cultural constraints (Attuel-Mendes & Ashta, 2008; Goudzwaard, 1968).

The advent of microfinance changed this situation. Through an extensive use of benevolent workers and donor funds, microfinance was able to considerably reduce transaction costs (Armendariz & Morduch, 2005; Ashta, 2007, 2009 forthcoming; Bernasek & Stanfield, 1997; Bhatt & Shui-Yan, 2001). Group lending has been innovatively used for reducing information asymmetry cost. Groups and local communities have private information which the bank did not have on the potential borrowers. By innovative schemes of staggered lending and progressive lending, as well as group monitoring, microfinance institutions were able to lower information asymmetry costs. The phenomenal growth of Microfinance from the first organization in the 1970s to 10,000 organizations today (World Bank estimation), testifies to the success of the different variants of the model. Even if only 175 of these microfinance operations are sufficiently scaled for financial sustainability, all are involved in achieving the function of transferring funds from people who have excess funds to people needing these funds.

A simplistic version of the supply chain of money in microcredit operates as follows:

- Individual donors/lenders give money to donor organizations / social investors
- Donor organizations / social investors give money to Microfinance institutions or directly to individuals
- Microfinance organizations give money to poor borrowers.

Thus, there are at least two intermediaries between the lender and the ultimate borrower: the donor/investor organizations and the Microfinance institution.

However, with the arrival of internet, it is now technologically possible for small firms and individuals to get access to a large number of individuals and institutions, thus bypassing the intermediating brokers/investors and banks/Microfinance institutions. The relative low cost of internet technology makes small transactions feasible. However, borrowers also need to
overcome the asymmetric information problem. Most conventional microfinance sites only gave out information but do not access funding directly.

Since 2000, new websites are emerging to link donors directly with borrowers. They are collectively termed "peer to peer lending". They are concerned not just with poor borrowers, but more generally with all small scale and micro loans. We have found a number of such organizations with websites at different stages of development. In this paper, we examine the web tools these website-based lenders use. The question is whether Web 2.0 social tools can contribute to overcome information asymmetries and reduce the inherent risk for building up a climate of trust for the parties of a microfinance exchange. We are not implying that the use of web2.0 tools is essential for trust: there could be other ways of building it, but this is the area in which we focus in this paper.

The Web 2.0 social media

The term Web 2.0 is believed to have been coined by Dale Dougherty and then popularized by Tim O'Reilly\(^7\) (Lenrevie, Lévy & Lindon, 2006). It stands for a generation of social media that allows users to jointly create and manipulate content. Such media can take many forms, from the virtual worlds of Second Life, Microsoft Office-compatible Google Documents and Spreadsheets, blogs, wikis and group messaging software programs.

For solving problems, innovating, taking decisions, and even predicting the future, collaboration and aggregation of information in groups are considered to be better than the enlightenment of any elite few, no matter how brilliant (Surowiecki, 2004). Web 2.0 tools can enhance collaborative environments by making the practices of knowledge work more visible and accessible (McAfee, 2006). These tools enhance meaningful in-house dialogue and facilitate mass virtual collaboration to solve a problem or to improve an operation (Tapscott & Williams, 2006). Blogs, for example, can potentially bring organization and their constituencies together in a way that improves both image and bottom line (Scoble & Shel, 2006). Dell currently has several sites that support user-generated content and give its customers and community a voice (Armano, 2007). Many companies, such as Ernst & Young, recruit new employees primarily on Facebook (Hollis, 2007).

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\(^7\) The Weblog of Tim O'Reilly can be viewed at <http://www.oreillynet.com/>
Empowered by the collaborative potential of the Web 2.0, many individuals now take the initiative to form communities and exchange directly on different issues. Moreover, a growing number of Web 2.0-equipped sites now enable Internet users to reward or punish corporations for their behavior and provide an opportunity to create brand affinity by driving communities to form around companies such as Harley-Davidson (Armano, 2007). Consumers on the internet share not only their purchase experiences with the rest of the world, but make their buying intentions transparent as well. Intentional buying groups show clearly their intentions. This phenomenon, dubbed "Intention Economy"\(^8\) means letting consumers make their buying intentions known, and then inviting suppliers to bid for their business.

There are three main reasons why the Web 2.0 will enable people to create new teams and communities. First, Web-based applications create convenient accessibility to (common) files from anywhere. Users do not have to carry around storage media. By assigning the role of immobile PC or server as information-delivery platforms to the Internet, the Web 2.0 makes it possible for individuals to collaborate and exchange.

Second, these applications create the possibility of strong collaboration. They enable distant peers to create, share, edit, categorize, and exchange information directly and independently. Every change or comment is preserved on the hosting web server. A team leader starts the document and grants access to other team members. Consequently, people can contribute, collaborate, edit, and exchange in an active process, through online office suites which track changes in documents (Yu & Hui, 2007).

Third, Web 2.0 reduces the costs of essential software on personal computers and company servers, because its applications reside on servers maintained by the vendors themselves. This development dramatically reduces software deployment and costs. Web 2.0 tools are less expensive than traditional software and many are even free.

The revolutionary potential of these technologies reside in the ability to let atomistic individuals to form, by themselves, new groups, organizations, social networks and peer-to-peer collaborations. More than one billion consumers are now on the Internet. Many of them comment on commercial offers and post reviews and experiences, and are doing so independently from the websites of brands and businesses. In fact, collaborating through Web 2.0 technologies is also referred to as “crowd sourcing” (Tapscott & Williams, 2006).

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Through Web 2.0 technologies, distribution of data becomes spherical rather than linear, including horizontal and bottom-up, not just top-down communication. Furthermore, Web 2.0 open standards applications such as tagging, bookmarking, and user-generated content enable new forms of collaboration and new forms of information. The barriers between people have never been so thin. Web 2.0 technologies embrace the idea that the more people use a service or application, the stronger and more valuable it becomes, following "power laws". An illustration of such a network is provided in figure 3, where people network with each other using the website as a platform to create content.

A McKinsey survey by Bughin & Manyika (2007) includes the following nine web 2.0 tools, ranked in order of respondents' interest and importance attached: web services, peer-to-peer networks, collective intelligence, social networks, podcasts, Blogs, RSS (Really Simple Syndication), Wikis and Mash-ups. Definitions of each tool are available in that survey. The survey points out that different industries use different tools. For example, Communications and media industries use RSS, Blogs and Podcasts more than the average user. Similarly, Knowledge-focused industries such as high-tech use Mash-ups, peer-to-peer networking, social networking, collective intelligence and wikis more that average users. This is not to say
that they lay less importance on Web services. Web services continue to be the most important, but both these industries use web-services as much as any other user. Thus, we can conclude that the use of web 2.0 tools is increasingly important to most industries, some tools are more important than others, and some tools are more useful in some industries than in others. Our question is which Web 2.0 tools are being used in the peer-to-peer lending sites to overcome information asymmetry and reduce transaction costs.

Research design and field of inquiry

We look at three basic questions and examine associated hypotheses in the context of the interrelations between a social cause (peer-to-peer lending) and a social technology (Web 2.0 technologies) and the impact that the latter can have on the former.

Q. 1. What is the business role of social network based websites which facilitate people to people lending?

H 1- On the major websites of peer-to-peer lending, trust and transaction are being established directly between peers.

Alternatively, we would find that some other institutional source of trust is necessary.

Q.2. Do these lending sites use web 2.0 tools so that lenders and borrowers get to know, trust and deal with each other?

H2: The peer to peer lending websites incorporate the Web 2.0 technologies.

This hypothesis requires finding out if the social Web 2.0 technologies are built-in in the peer to peer lending websites of our sample. If true, one can logically conclude that the latter are willing to support mutual relations and collaboration between lenders and borrowers. If confirmed, this should validate that people are able to form networks of trust without a central system controlling their behavior or directly enforcing their compliance (Surowiecki, 2004).

Q.3- On the alternative that H2 is false (i.e., the major peer to peer lending organizations do not integrate the social Web 2.0 tools in their websites to enable lenders and borrowers contact and interact directly), the question arises whether and how they build trust.

H 3a- The peer to peer lending websites are plausibly disposed to maintain the control of relations between peers.
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H 3b- Trust cannot be established directly online between peers from different countries and cultures. For a founded transaction between lenders and borrowers, the peer to peer websites should intervene as intermediaries and certifiers between parties.

Research Methodology

The research method of this paper will be based on both exploratory and observation methods.

First, we adopt the exploratory method to discover the peculiarities of the new and fast-changing sector of peer-to-peer lending. A comprehensive investigation is made of the Websites of our sample. The main objective the exploratory step of our research is to monitor and pilot investigating studies for patterns and ideas rather than try to test or confirm hypotheses.

Second, we use the method of observation to scrutinize the general orientation of the different peer-to-peer websites with regards to centralized or decentralized organization of contacts between peers for lending-borrowing deals. The results should determine whether the observed websites differ in terms of allowing the parties to establish mutual trust and exchange through the Web 2.0 technologies.

Sampling

The study was initiated in February 2008. We did not find any industry association listing all the peer to peer lending organizations. A search on internet showed that Wikipedia documented five sites Kiva, Prosper, Zopa, Lending Club, Circle Lending (now Virgin Money). An academic research on EBSCO showed that when commenting on peer to peer lending, professional journals and news magazines mention essentially these five sites. For example, Freeman (2006) had covered Zopa and Prosper; Stetenfeld (2008) has talked about Lending Club, Prosper and Zopa. Sisk (2008) covered these three and Virgin Money. Farrell (2008) added GlobeFunder to the list but we could not determine the magnitude of their business from their website. Pratt (2007) has covered Kiva. Holahan (2007) added MicroPlace to Kiva. Additional web-sites have emerged since then (Powers, Magnoni &
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Knapp, 2008), but we have limited ourselves to these known examples (before March 2008).

Therefore, six specialized websites in peer to peer lending will constitute the sample: Kiva, Prosper, Zopa, Lending Club, Circle Lending (now Virgin Money) and MicroPlace.

Q. 1. What is the business role of the new social network based websites facilitating people to people lending?

As noted earlier, in recent years, peer-to-peer financial transactions have been growing. Although peer to peer finance would include peer-to-peer payment systems such as PayPal (Friedman, 2006) or even Visa (Arnfield, 2002), we will limit our discussion to peer-to-peer lending, also called social lending (Stetenfeld, 2008).

As seen from table 3, the first institution to be established was Circle Lending in 2002. At that time, it dealt with loans between families and friends who are already known to each other and the website was only a facilitator. Recently, this institution was taken over by Richard Branson and is now Virgin Money. The second institution to be started in 2005 was Kiva with founders Matt and Jessica Flannery, which has clearly taken the micro-credit niche. Two other institutions, Zopa and Prosper, which started in 2005 and 2006, respectively, are online market places where borrowers and lenders who are unknown to each other come together. Although some of the loans on these websites may be small enough to be called micro, this is not the purpose. A fifth institution, similar to Zopa and Prosper, is more into community based lending: Lending Club (started in 2007). A sixth institution, MicroPlace, started in 2006 and is also concerned with financing microfinance institutions. One common denominator of all these websites is the repetition of the underlying philosophy of people helping people.
Table 3 - Brief description of sample units

<table>
<thead>
<tr>
<th>Sample Unit</th>
<th>Started in</th>
<th>Founder</th>
<th>General Description</th>
<th>Interest rates to lenders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kiva,</td>
<td>2005</td>
<td>Matt and Jessica Flannery</td>
<td>Microfinance</td>
<td>None</td>
</tr>
<tr>
<td>Microplace</td>
<td>2006</td>
<td>Tracey Pettengill Turner</td>
<td>Social investing</td>
<td>1 to 3 %</td>
</tr>
<tr>
<td>Prosper</td>
<td>2006</td>
<td>Chris Larsen</td>
<td>Market place, auction</td>
<td>Market rates, depend on risk</td>
</tr>
<tr>
<td>Lending Club</td>
<td>2007</td>
<td>Renaud Laplanche</td>
<td>Market place</td>
<td>Market rates, depend on risk</td>
</tr>
<tr>
<td>Virgin Money (ex-Circle Lending)</td>
<td>2001/2002</td>
<td>Richard Branson (ex-Ashish Advani)</td>
<td>Service fee for servicing Social lending</td>
<td>Fixed between family or friends</td>
</tr>
</tbody>
</table>

Discussion of the exploratory research’s results on H1: the different business models.

The first exploratory step of our research discovers specific business missions of the members of our sample and leads to discovering particulars patterns in online peer-to-peer lending.

Our first question was whether these websites were actually peer-to-peer. From the description of the transactions on the various websites, we noted the movement of funds. From this it appears that the only facilitator dealing with peer to peer lending, without intermediary, is Virgin Money. In all the others, the peer-to-peer lending site is an intermediary. In fact, four distinct online role models appear, which we will treat successively: microcredit, social investing, commercial market places and social lending. In the discussion below, we explore only the question of the business role by determining how money is transferred between entities. Further details of the operators are provided in Appendix 1.

A. The online microcredit model (Kiva)

Kiva is as an intermediary of microfinance for it partners both with lenders and borrowers. As shown in Figure 3, on the borrowers' side, Kiva works with, "Field Partners" which are local microfinance institutions. Usually such institutions have limited funds, but have access to and
ability to choose qualified borrowers/entrepreneurs from world-wide impoverished communities. Kiva does not distribute the funds itself to the final borrower. On the other side of Kiva, lenders can directly sponsor a business/borrower, but sends the funds to Kiva. Therefore, the entire peer to peer process contains two intermediaries. The first is Kiva.org. When a lender loans, the funds are sent to Kiva.org via PayPal or a credit card. From Kiva.org the funds are sent to another intermediary, a field partner (a microfinance organization), which distributes the funds to the assigned entrepreneur. So, the two parties of the transaction do not need to trust each other. Instead, they have to trust the intermediaries who facilitate the transfer and repayment of the microcredit. Trust may be less important on Kiva as essentially lenders are making donations. Some field partners work with groups of entrepreneurs. Here, the group guarantees repayment of each individual member. No interest is currently charged or paid on loans. Once a loan is repaid, lenders can re-loan or withdraw their funds.

To become a "Field Partner", the prospective microfinance institution must currently serve at least 1,000 active microfinance borrowers; have a history (at least 2-3 years) of lending to poor, excluded, and/or vulnerable people for the purpose of alleviating poverty or reducing vulnerability; be registered as a legal entity in its country of operation; be able to show at least one year of financial audits; and preferably be registered on the MIX Market (www.mixmarket.org). These requirements help to build trust with the ultimate lender.

On the lenders side, Kiva encourages potential loan givers to choose directly among uploaded entrepreneur profiles on the site and sponsor a business. The course of a loan is usually between 6-12 months and its amount can be as little as $25 at a time. Once a loan is repaid, the lender can withdraw the funds or re-loan them to a new entrepreneur. Lenders periodically hear back from their sponsored entrepreneur and remain informed on the progress of the entrepreneurship, via email and online journal updates, often written by partner representatives and loan officers. Kiva never facilitates the interaction and communication
between lending and borrowing individuals. The website of Kiva is not interactive and does not promote peer-to-peer connections.

b. Online social investing (MicroPlace)

MicroPlace distinguishes itself from Kiva and the other entities and refers to its lenders as "investors". These lenders invest in market notes of security issuers. These security issuers then provide the funds to microfinance institutions who give the funds to poor people. The original investors get returns of 1 to 3%. MicroPlace is a registered broker-dealer which allows the social investors to buy the bonds of security issuers. As shown in Figure 4, Microplace earns a commission from the security issuer. It can take only funds from American retail investors.

Once client repayments are received, the institutional investors receive their principal (plus interest) and can then pay back their own investors, i.e., people who purchased those original securities. Unlike Kiva, where lenders provide capital to microfinance institutions directed to specific entrepreneurs, MicroPlace is mainly a market for microfinance securities, not just requests for loans, and the investors target specific Microfinance Institutions and not the ultimate entrepreneur (2008b).

c/. Online Commercial Lending Market Places (Zopa, Prosper and Lending Club)
Zopa, Prosper and Lending Club, three other members of our sample, offer social networks for peer-to-peer community loans and financing. Each of these entities provides a matchmaking service of introducing borrowers to lenders who previously did not know each other. This process helps borrowers to get lower rates than commercial credit and offer lenders higher rates than bank deposits. Also, many borrowers would otherwise be unable to get any loans from banks: For example, new companies who have no financial history seem to have difficulty in getting loans from banks during the first two years because they do not have financial information to provide (Farrell, 2008). These firms find that they can get small loans directly from people on these websites. Freeman (2006) finds other similarities between Zopa and Prosper: “both vet potential borrowers, assess the credit risk, and distribute that risk among a number of different lenders, all individuals who determine how much money they wish to loan out at what level of return”.

Any individual can register as a borrower and can build a profile for himself/herself. Loans from a lender can be distributed to a single person or divided amongst several borrowers. Conversely, a borrower's loan might come from a single lender or several, to reduce risk, and borrowers can choose from whom they select loans, based on the interest rates offered. An auction mechanism is used to allow borrowers to get the lowest rates for their credit rating. Figure 5 represents their model and further details of these operators are available in Appendix 1.

d. Online Social Lending

Virgin Money (USA) differs from the three previous online peer to peer lenders because it focuses on loans between people who are familiar with one another (family and friends). The Virgin Money

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9 In the US, SEC permission is required. This has entailed Lending Club and Prosper to close one by one. Lending Club has reopened after clearance.

10 However, this may vary from one web lender to another: it may be harder in credit risk (not liquidity) terms to get a loan from Zopa, for example, than a bank, as is borne out by their tiny levels of default below 0.2% of all funds ever lent (source Zopa).

11 It seems that Zopa's methodology results in a significantly lower default rate while Prosper's methodology results in a rather high default rate.
people deal with the paper work such as loan documents, payment processing, reminder emails, and year-end statements. Virgin Money is the only real peer to peer movement of funds as shown in Figure 6. This distinction exists because the borrower and lender know each other before contacting Virgin Money. It is ironic that there is an absence of the Web 2.0 tools on its website to encourage direct contact and trust building between peers.

Presentation and discussion of the results on H1:

The following Table 4 resumes our results for hypothesis H1. As can be seen from the table, the only real direct peer to peer lending is through Virgin Money, which is merely a facilitator offering services to the peers who already know each other. All the other five are intermediaries and money flows through them. However, the motivation of these five differs. Prosper, Zopa and Lending Club seek to maximize profits for their clients and for themselves. At the other extreme, Kiva is a not-for-profit and its lenders also do not receive interest. In between, MicroPlace is looking for a small return and falls into the category of social investors.

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Intermediary</th>
<th>Facilitator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not-for profit</td>
<td>Kiva</td>
<td></td>
</tr>
<tr>
<td>Social Capital (profit of 1 to 3%)</td>
<td>Microplace</td>
<td></td>
</tr>
<tr>
<td>Socially Responsible Investment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Profit maximization with certain sectors)</td>
<td>Prosper, Zopa, Lending Club</td>
<td>Virgin Money</td>
</tr>
</tbody>
</table>

These intermediary-based websites permit intermediaries to make profits. With time, people may make websites which will permit people to borrow and lend directly. Government regulations may then become more relevant. As with Napster, other stakeholders may want to make money through such developments such as insurance companies, certifiers, etc. and regulation would need to balance these alternative stakeholder interests.
Q.2. Do these lending sites use web 2.0 tools so that lenders and borrowers get to know, trust and deal with each other?

The second hypothesis is based on the suggestion that people build direct trust on each other through the Web 2.0 technologies which are offered on the microfinance websites. What are the performances of the members of our sample with regard to this issue?

Table 5 below resumes the web tools being used to facilitate contact. We have not observed all the web 2.0 tools surveyed by Bughin and Manyika (2007) because some tools are typically used in-house and/or are not observable, while other tools are used to relate to external customers and are more visible. For example, peer-to-peer technology of sharing files across a number of users' computers rather than maintaining the files in a large central server, is not visible to the outside observer (such as us) unless the firm outlines such procedures explicitly on its website. Similarly, wikis are often used more for in-house collaboration and knowledge building than for sharing information with workers. We have classified the tools which we surveyed into blogs, interactivity, peers' reviews and comments, peers communities and chats, as shown in table 5. We find that five sites use blogs, two sites have other means of interactivity, one site is using Wikis and three sites are offering Peer Community and Chat Services.

However, not all these blogs are interactive. Some are only one-way communication channels. So, we have provided a subjective rating for the web-tools to measure if they are being used effectively. For example, we note that blogs may be institutional (0.5); they may permit comments (0.25); and they may allow people to initiate new topics (0.25). The total adds up to one. Similarly Communities may be only lenders (0.5); only borrowers (0.5); or lenders and borrowers (1.0). Based on this, we find that overall effectiveness is less than the optimal if the tools were being optimally used. For example, blogs have an overall use of 5 out of 6, but the effectiveness is only 3.25 out of 6.

Although at first glance, it is surprising to see that Virgin Money does not use any web 2.0 tools, it must be remembered that the people using Virgin Money already know each other and may not need such tools.
Table 5 - Web 2.0 social tools on the Peer to peer lending websites

<table>
<thead>
<tr>
<th></th>
<th>Blog</th>
<th>Interactivity between lenders and buyers</th>
<th>Peers' reviews and comments</th>
<th>Peers Communities and chats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kiva</strong></td>
<td>Journals of entrepreneurs with photo, message. Possible link to the lenders’ blogs. Kiva Blog, “Inside Kiva”, an info. letter with links. No interactivity with readers.</td>
<td>0.5</td>
<td>None</td>
<td>Communities only for lenders (since August 2009)</td>
</tr>
<tr>
<td></td>
<td>General blog for all members, allows comments and discussion by authorized people (we see the same person writing all the time).</td>
<td>0.0</td>
<td>0.0</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Lending Club</strong></td>
<td>Institutional blog, personalized with pictures. Can comment but not initiate.</td>
<td>0.5</td>
<td>Listing of borrowers. No interactivity</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>There are two types of blog on prosper.com: institutional blogs and affiliated and linked to blogs. The institutional blogs are not personalized. Still, they allow comments even if users cannot initiate new topics.</td>
<td>0.75</td>
<td>“Questions &amp; Answers” on borrower’s listing</td>
<td>None</td>
</tr>
<tr>
<td><strong>Prosper</strong></td>
<td>Institutional blog for all members. Can comment</td>
<td>0.75</td>
<td>None</td>
<td>Prosper Groups, created by lenders and borrowers, Rated on repayment performance</td>
</tr>
<tr>
<td>Virgin Money</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Zopa</td>
<td>Discussion board for members</td>
<td>0.75</td>
<td>0.0</td>
<td>Discussion board for members</td>
</tr>
</tbody>
</table>

Total using tool 5
Effective use of tool 3.25

Updated September 25th, 2008

Blogs may be institutional 0.5. They may permit comments 0.25. They may allow people to initiate new topics (0.25)
Communities may be only lenders (0.5), only borrowers (0.5) or lenders and borrowers (1.0).

The next issue to verify is whether the peer to peer lending sites are significantly different from the population of users in their use of Web 2.0 tools. To assess this, we compare the results of our quasi-population of the few peer-to-peer lending sites (N=6) to that of the large sample in the McKinsey survey (n=2847) in Table 6. Although it is not known whether the McKinsey survey included our six websites, the probability is small (six out of millions of
enterprises), and this outcome makes no difference to the significance of the results. Since McKinsey does not indicate whether they looked at the effective use of blogs, we have retained the overall number of sites using blogs (5) for the statistical analysis, rather than the effective use which we measured (3.25).

The only significant results, irrespective of which statistical analysis we used, is that peer-to-peer lending sites use significantly more blogs than most websites. Other web 2.0 tools that we examined indicated that these lending sites are not significantly different to those found in the McKinsey survey.

Table 6 - Web 2.0 social tools on the Peer to peer lending websites (our small population) compared to McKinsey Survey of different users (large sample)

<table>
<thead>
<tr>
<th></th>
<th>Blog</th>
<th>Interactivity between lenders and buyers</th>
<th>Peer reviews and comments</th>
<th>Peers Communities and chats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sites using</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Sample size (N)</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Percentage of six P</td>
<td>83%</td>
<td>50%</td>
<td>17%</td>
<td>50%</td>
</tr>
<tr>
<td>McKinsey category corresponding</td>
<td>Blogs</td>
<td>Web services</td>
<td>wiki</td>
<td>social networking</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McKinsey Sample (n)</td>
<td>2847</td>
<td>2847</td>
<td>2847</td>
<td>2847</td>
</tr>
<tr>
<td>McKinsey percentage (p)</td>
<td>32%</td>
<td>80%</td>
<td>33%</td>
<td>37%</td>
</tr>
<tr>
<td>Exact beta limits of peer to peer lending (small population)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower bound exact b</td>
<td>39.76%</td>
<td>6.76%</td>
<td>0.00%</td>
<td>6.76%</td>
</tr>
<tr>
<td>Upper bound exact b</td>
<td>99.49%</td>
<td>85.34%</td>
<td>52.18%</td>
<td>85.34%</td>
</tr>
<tr>
<td>Exact beta limits of McKinsey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower bound exact b</td>
<td>30.27%</td>
<td>78.52%</td>
<td>31.28%</td>
<td>35.20%</td>
</tr>
<tr>
<td>Upper bound exact b</td>
<td>33.72%</td>
<td>81.46%</td>
<td>34.76%</td>
<td>38.77%</td>
</tr>
<tr>
<td>Z test: 95% confidence limits of McKinsey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower bound approximate</td>
<td>1.96</td>
<td>1.96</td>
<td>1.96</td>
<td>1.96</td>
</tr>
<tr>
<td>Upper bound approximate</td>
<td>30.29%</td>
<td>78.55%</td>
<td>31.29%</td>
<td>35.21%</td>
</tr>
<tr>
<td>No overlapping significantly higher</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Result</td>
<td>Overlapping</td>
<td>Overlapping</td>
<td>Overlapping</td>
<td>Overlapping</td>
</tr>
</tbody>
</table>

It is useful to note that peer to peer lending website do use more blogs, but these blogs are one-way instruments. As a result, there is no real possibility for comments and dialogue. So, the blogs provide only one-sided information and opinions. The blogs are serving a corporate advertising purpose and not a market feedback mechanism.

Q3: What Alternative sources of Trust are being used?
The third hypothesis examines the sources of trust on the microfinance websites which do not integrate the social Web 2.0 tools for enabling lenders and borrowers to build mutual trust. In the absence of the Web 2.0 tools, the websites of our sample use different policies to build mutual trust between lenders and buyers.

Kiva acts as an intermediary between the two sides. When a lender loans, Kiva.org receives the funds via PayPal and subsequently sends them to a "Field Partner" who, in turn, distributes the funds to the assigned entrepreneur. In this process, the two parties of the transaction do not need to trust each other; they rather have trust in the intermediaries of the transfer and repayment of the microcredit.

On Prosper.com the lending and borrowing peers are neither asked to trust each other nor is there a possible mechanism for trust building directly between them. Prosper.com manages to build trust between the lenders and borrowers indirectly. The borrower’s credit score will be negatively revised, and referred to a collection agency, if he or she defaults on the loan. In fact, trust is not based on mutual relationship, but on pressure and authority of the reference groups and public authorities as third parties.

Lending Club plays as an intermediary by managing the money movement, loan repayment, and providing detailed reporting. Moreover, if a borrower fails to pay, Lending Club will report the borrower to credit agencies and use a collection agency to recover the funds, if necessary. If one of borrower is late on a payment, Lending Club charges late fees on lender’s behalf. Thirty days after the due date, the borrower's account will be sent to Lending Club’s collection agency partner and the late payment history will also be reported to the credit bureau partners.

The Virgin Money management processes the paper work such as loan documents, payment processing, reminder emails, and year-end statements, between the peers who already know each other. As such, they do not need to build trust on the other peer, since they could have done the transaction offline between family members, because Virgin Money is only a facilitator who administers the deals.

Discussion and Conclusion
Peer to peer lending or social lending is a new financial phenomenon. This is found on diverse websites of microfinance, social investing as well as small loans at market rates, and even lending between friends and family members. The paper studied the use of web 2.0 technologies (blogs, interactivity between lenders and buyers, peers' reviews and comments, peer communities and chats) in six such peer-to-peer lending sites. It finds that most of the peer-to-peer lenders are in fact intermediaries between the peers (lender and borrowers) and there is little direct contact between the peers. The only site which permitted direct contact was Virgin Money. However, Virgin Money is unremarkable because the borrower and lender are already known to each other in their model.

Virgin Money is the only website with did not use any of the web 2.0 tools. Since the peers are known to each other in their model, the facilitator did not need to use Web 2.0 tools to bring them together. All the other intermediaries use at least one Web 2.0 tool. None of the websites used all the web 2.0 tools.

The commercial lending sites such as Lending Club, Prosper and Zopa, may result in lower rates of interests for borrowers and higher rates of interests for depositors than brick-and-mortar banks, but these banks would soon match them by banking online. Many of these sites are not explicitly aimed at the poor, except for MicroPlace and Kiva, and so their impact on the poor is negligible.

Even for the two sites aiming at the poor, in fact there is no disintermediation because the MFI as well as the lending site exist as intermediaries. Both these entities still need to have operating and financial sustainability. So, even if spreads are limited by this new online transaction method, they do not really reduce overhead costs of the Microfinance Institution, which is the biggest component of the transaction cost. Moreover, the poor are not directly connected on the internet as they do not have the education level to use internet nor the complementary capital to access it. Therefore, all the uploaded stories are written by the associated Microfinance institutions or by Kiva workers. This process adds to the costs of the system.

The paper raises questions of why these websites, particularly those relating to microfinance (Microplace and Kiva), should remain intermediaries with a limited role. Some institutional reasons may be involved.

In MicroPlace's case, their website suggests that they would like to view themselves as a platform where at the very least investors, security issuers and MFIs are present. It would be
difficult for individual entrepreneurs/borrowers to be present because the poor may not have the literacy level to use internet to update their profiles. Kiva is using an enormous amount of donor funds to get volunteers, its own employees and that of partner MFIs to upload borrower profiles\textsuperscript{12}. MicroPlace has therefore obviated this expense by positioning itself in relation to lender/investors and MFIs.

However, even MFIs are not present on the platform directly. Since interest is being charged (as opposed to free “donor” loans in the case of Kiva), the Securities and Exchange Commission does not allow MicroPlace to give loans to MFIs directly. As a result, MFIs have no interest in registering on their website. MicroPalce therefore has to attract Security Issuers who already have their contacts with MFIs. Moreover, MicroPlace does not have the capacity to rate the MFIs. For all these reasons, the MFI is not on the MicroPlace platform. A Microplace spokesman adds "MFI's are simply not sophisticated enough themselves to be able to create a security to offer to US investors. As you can appreciate, it's an expensive and complex process even for the largest organizations like Calvert or Oikocredit."

Even Security Issuers are not yet present on the MicroPlace platform. Since there are only two security issuers who are dealing with MicroPlace, it is too early to determine whether they are on a platform. One reason could be that there may not be many security issuers dealing with MFIs and therefore the market is too small a niche for the moment. A second reason could be that these two may be sufficiently large to attract all existing investors that MicroPlace has been able to mobilize thus far. The Microplace spokesman confirms that although the technology we are dealing with allows instantaneous communication and transfer of funds, it is embedded in an an orthodox regulatory environment and for a new player such as MicroPlace, the attraction of security issuers and their involvement on the site is a long process: "We have many security issuers in the pipeline, but bringing a retail investment to market in the US involves many regulatory, cost and other hurdles. We try to lead security issues down the path and make it easy, but the fact is it just takes time and perseverance to get through all the necessary details, and MicroPlace may be one of many competing distribution channels for them. As we have more issuers on the site, raise more capital, and develop more of a standard "toolkit" for completing the process, it will be easier- we're just enduring a few expected growing pains now".

\textsuperscript{12} 2008a. Kiva: Improving People's lives, One Small Loan at a Time. Knowledge\textsuperscript{\textregistered}Wharton.
Ashta & Assadi: Do Social Cause and Social Technology meet?

This then brings us to the question of what measures are required to get lenders/investors to bring more funds to MicroPlace. As with security issuers, there are undoubtedly patterns of social interaction that are deeply embedded in systems of procurement, based on history, country, laws, institutions, geography and resources (2001). The role of these factors in influencing technology adoption may influence the development of web 2.0 in areas as conservative as investing, lending and borrowing money.

Additionally, there may be a failure to create the excitement necessary for social contagion. This could be because people are hesitant to talk about money and giving to charity. Alternatively, it may be because these operators (Kiva and MicroPlace) have not been able to find the appropriate mavens or connectors to spread the "buzz" effectively beyond the initial novelty impact. According to our Microplace spokesman, in addition to buzz, viral marketing, culture and institutions, an essential issue is of understanding typical ecommerce behavior: "what's important to our customers, understanding what inspires them to invest etc. etc. etc.".

This is a first paper on this subject, in an evidently new field. Obviously, the number of questions for future research is numerous. We can at least advise the following fields of investigation.

Future research needs to explore issues such as whether lenders and donors are inhibited by culture from proclaiming that they are donors. Also, whether borrowers and recipients feel any shame or other refraining emotions in openly disclosing that they need financial help. Although Kiva is helping build borrower profile in a bid to help the microcredit movement, do the illiterate borrowers understand and approve of their virtual images placed in public places?

Even with a technology like this, competition has taken its time to emerge. A participant at the Microfinance and New Technology Summit in New Delhi (Oct 21-22, 2008) explained that the people having information technology did not have a proper understanding of the microfinance sector and people in the microfinance sector were probably having little grasp of

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14 2005. What's the Buzz About Buzz Marketing? , Knowledge@Wharton.
15 In March 2009, after four years of operations, Kiva has served a little over 90,000 borrowers. With the power of internet's outreach at low costs, it seems that despite the best promotions, including testimonials by people like Bill Clinton and heavy subsidies, clearly Kiva has not tapped the power of Web 2.0.
the required technology. Also, neither Kiva nor MicroPlace nor any of the peer to peer lenders may be making large profits as yet, although the potential is enormous. Nevertheless, a USAID study released in September 2008 (Powers et al., 2008) indicates many new websites have begun to emerge. It is possible that we are judging harshly a movement which will take time to be accepted for cultural reasons and perhaps the benefits of web 2.0 tools are to increase the users’ enjoyment of the platforms and services - ultimately to the benefit of trust through transparency and open communication– and to help spread the word about the new platforms virally.

Again, it is possible that web 2.0 tools are only part of the story and many other marketing and product-mix factors go to explain the success or failure of online lending.

Surprisingly, almost all commercial sites we reviewed are national/domestic. Although we have focused on the American sites and one UK site, many of the commercial sites also have presence in other countries with separate companies and separate websites. Therefore, except for donations, funds seem to be unable to move across borders. It may be interesting to compare national legislations (sometime State legislations within federal countries) to understand the blocks to a truly global economy allowing a truly social movement of funds from the rich to the poor. An important question is whether international/global legislation will follow or precede and facilitate the new reality being ushered in by these peer to peer lending operations, whether commercial, social or donor.
Appendix 1: Details of the websites

A. The online microcredit model (Kiva)

No interest is currently charged or paid on loans. Kiva has distributed about 40,000 loans worth $27 million (by March 2008) from 270,000 lenders (2008a). The minimum loan size for a lender is $25 and the average loan size is about $95 per lender.

On listings, borrowers are presented in terms of name, age, country, business, conditions of repayment, etc. Lenders are also given option to present themselves on the site. But there is no interactivity between lenders and borrowers.

Kiva rates the MFIs and not the borrowers. Essentially, Kiva weeds out non-performing MFIs, i.e., those who do not recover their loans. Thus trust is deposited in the Kiva rated MFI and not in the borrower. Only borrowers of these approved partner MFIs are given loans.

Kiva's financing comes from lenders who give Kiva donations for its services. This amounts to about an average of 8% of loans\textsuperscript{16}. A second source of financing comes from corporate sponsorships, donations from foundations and angel donors.

b. Online social investing (MicroPlace)

MicroPlace, a wholly-owned subsidiary of eBay, defines its mission as helping to alleviate global poverty by enabling everyday people to make investments in the world’s working poor. MicroPlace distinguishes itself from the other websites by promoting itself as a social investor model rather than "lenders" and "borrowers". On its site, people can purchase investment from microfinance security issuers (socially responsible investment\textsuperscript{17} funds) and attribute their investment to a specific country and microfinance institution in the developing world. Two security issuers are currently on their site: Calvert and Oikocredit, both of which are categorized by Patrick Goodman (2006) as Microfinance Development Funds. However, for the moment, the investors can buy only bonds of security issuers (socially responsible investment funds) and are thus lenders. The funds generated by these sales are then invested in microfinance institutions around the world, who then use them to make small loans to the working poor. The latter use the loans to start or expand small businesses and lift themselves out of poverty.

Kiva does not provide interest to lenders. Whereas, social investment players aim at a 1 to 3% return to their investors.

c. Online Commercial Lending Market Places (Zopa, Prosper and Lending Club)

i. Zopa

\textsuperscript{16} 2008a. Kiva: Improving People's lives, One Small Loan at a Time. Knowledge@Wharton.

\textsuperscript{17} For the purpose of this paper, a social investor is one who is looking to get his or her money back, with a return of around 1% to 3%. A socially responsible investor, on the other hand, may want near market returns.
Ashta & Assadi: Do Social Cause and Social Technology meet?

Zopa is originally a UK operation. Zopa (UK) has distributed £25 million in loans to 175,000 borrowers. There are also Zopa international operations with local teams in the US and in Italy, although Zopa is closing down the US operations. Zopa's mission, as described in its website, is social finance to let a community of members to help each other financially via the tools of finance and social networking. The term of Zopa stands for Zone of Possible Agreement and is the overlap between one person's bottom line (the lowest price to sell something for) and another person's top line (the highest price to pay for). If there's no Zone of possible agreement, there's no deal.

Zopa has its own program for rating borrowers and this has led to very low default rates.

ii. Prosper

Prosper.com acts as a marketplace for connecting individuals who wish to borrow money with people who have money and the desire to fund loans to other individuals. Fees are charged by Prosper for obtaining a loan as a borrower or receiving payments on a loan as a lender.

Any individual can register as a borrower and can build a profile for himself/herself. A borrower's loan might come from a single lender or several, to reduce risk. Any microfinance transaction will only occur in predefined groups. So, for lending or borrowing, one should be primarily be in a group – volunteer fire-fighters, for example.

On the site Prosper.com, the term "lender" is used for the sake of simplicity. In fact, all loans are made by Prosper Marketplace, Inc. from its own funds, and then sold to the "loan purchasers", called for brevity "lenders", who select loans, based on the interest rates offered. To place bids on the Prosper marketplace, "loan purchasers" have to transfer money to Prosper, as people transfer funds to their brokerage accounts before buying stocks. Loan purchasers can get started by either choosing a portfolio plan (diversification) or picking directly borrowers on the listings. They can lend up to two million dollars at Prosper, but only $25,000 at a time, the most one borrower can have access to at a time. Loans from a lender can be distributed to a single person or divided amongst several borrowers. Prosper provides data on credit, employment, and income of the prospects.

For avoiding risk of a borrower defaults, Prosper encourages “lenders” to make lots of small loans rather than one or two big ones, and ensure a more reliable return. Moreover, if a borrower is more than one month late on a payment, Prosper engages a collection agency on the lender's behalf and reduces the borrower's credit score.

Prosper, like Kiva, does not play the role of a facilitator between lenders and borrowers in its social network. On Prosper.com, lenders can ask questions through a section called "Questions & Answers" on the latter’s listing ("Your Account > Borrowing"), and borrowers are supposed to answer. Still, this cannot be considered as mutual communication, because the borrowers are not obliged to answer, and when they do, they are asked to do so under conditions of anonymity. Exposing borrower’s identity to a lender may put the latter in a legally precarious situation, and consequently borrowers are firmly asked by Prosper to avoid this at all costs. Moreover, the borrower is given the option to post the answer for all lenders to read. This is again far from a mutual communication.

In the Prosper model, the lending transaction could be predefined in groups or communities. The idea of groups is to put social pressure on borrowers to repay, but the groups do not guarantee repayment. However, the groups with a better payment record attract lenders. So, a borrower knows that if (s)he defaults, (s)he is creating an
adverse image for the whole group, affecting the rates offered to all of them. So, for borrowing, one should be primarily be in a group or community. In case of failing to pay back a loan, (s)he will consequently be under pressure of the group members. In fact, trust is not based on mutual relationship, but on reference groups as third party certifiers. Prosper has distributed $116 million in loans to 575,000 borrowers (by January 2008).

iii. Lending Club

The Lending Club model was started on Facebook. Thus, it already used the community based membership of a web2.0 social model. Both lender and borrower are known to their given communities. These communities are family and friends, and the groups could also be colleagues/ classmates/ religion/ geography, etc. The essence is to lend to known people within the community. The philosophy is that “bringing lenders and borrowers together in a marketplace that leverages existing communities and relationships will make for a better experience for all participants. Pointing lenders toward compatible borrowers will help ensure that personal loans get funded, while letting borrowers know that members of their community supported their financial needs will increase the overall performance of the loan (as borrowers would be less likely to default)”.

Nevertheless, Lending Club does provide a credit rating to each borrower (A to G). The role of Lending Club is not just match-making but to formalize the arrangements and to provide services. Lending Club provides technology to authenticate all users (ensuring they are who they say they are); credit scoring systems which rate borrower risk; and, the automated clearing house (ACH) system to move the funds between both parties. Their matchmaking system, LendingMatch™ system to minimize risk and allow community based lending, generates portfolio recommendations that spread lenders' money across a number of loans that meet their risk tolerance and maximize their degree of connectedness.

On its website, Lending Club is presented as a social lending network where members can lend money at better returns, and borrow money at better interest rates than from banks. Between the lender and borrower, Lending Club manages the money movement, loan repayment, and provides detailed reporting. Moreover, Lending Club uses a “connections system” to match lenders and borrowers. Membership in an association or a network or group in Facebook, is called affiliation. When lenders and/or borrowers share similar affiliations, they virtually constitute connections. Lending Club uses connections in terms of geography, education, employment, associations, etc. to expedite successful transactions.

Both individuals and organizations can be lenders. The lenders list the total amount they want to lend and the risk level they can withstand. The risk is measured on a scale of 1 to 5, where 1 represents the lowest tolerance for risk and 5 represents the highest tolerance for risk. Then, lenders can directly select individual borrowers, or generate a portfolio to reduce risk without negatively impacting return. There are seven main types of profiles: A (the highest credit scores, the lowest credit risk), B, C, D, E, F and G, which refer to the credit grades assigned to borrowers based on their credit scores.

Lending Club automatically withdraws payments each month from the borrower's bank account and then transfers it to the lender's account. Lenders can withdraw these funds or can select additional loans to fund. Lending Club charges lenders a processing fee for managing payments and servicing loan portfolios. The processing fee is one percent (1%) of each monthly payment from the lenders.
The borrowers need to register and establish their identities and creditworthiness. The borrowers on Lending Club need credit scores of at least 640 (of 850 maximum) and a debt-to-income ratio of 30% or less. Borrowers with a credit score above 640 might also be turned down if their overall debt level is too high. This filtering mechanism creates a safer environment for lenders. Borrowers who share their loan listings with their Facebook networks increase their chances of being funded and funded faster. Then, they complete a loan request, and instantly view the interest rate at which they pre-qualify. Borrowers subsequently select a loan option, and Lending Club will post the loan request on the site for two weeks, during which time interested lenders will contribute portions of the amount you requested. The borrowers might re-list a loan, if the first one does not receive full funding.

Once granted a loan by one or more lenders, Lending Club deposits the loan into the borrower’s bank account and takes reimbursements directly out of that same bank account each month. Borrowers will pay a processing fee that ranges from 0.75% to 2.00% of the loan amount. This fee will be deducted from the loan proceeds prior to depositing the loan in the borrower's bank account.

d. Online Social Lending (Virgin Money)

Virgin Money focuses solely on loans between people who are familiar with one another (family and friends). So, here, the parties already know each other. Virgin Money does not provide any credit rating.
Appendix 2: Beta distribution values and Z values for our small sample.

<table>
<thead>
<tr>
<th>McKinsey category corresponding</th>
<th>Blogs</th>
<th>Interactivity between lenders and buyers</th>
<th>Peers' reviews and comments</th>
<th>Peers' Communities and chats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sites using</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Sample size (N)</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Percentage of six P</td>
<td>83%</td>
<td>50%</td>
<td>17%</td>
<td>50%</td>
</tr>
<tr>
<td>McKinsey Sample (n)</td>
<td>2847</td>
<td>2847</td>
<td>2847</td>
<td>2847</td>
</tr>
<tr>
<td>McKinsey percentage (p)</td>
<td>32%</td>
<td>80%</td>
<td>33%</td>
<td>37%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>s</th>
<th>Number of successes</th>
<th>n</th>
<th>Number of trials</th>
<th>f</th>
<th>Number of failures</th>
</tr>
</thead>
<tbody>
<tr>
<td>s-1</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>f-1</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>f-1</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

| Lower bound exact \( \beta \) | 39.76% | 6.76% | 0.00% | 6.76% |
| Upper bound exact \( \beta \) | 99.49% | 85.34% | 52.18% | 85.34% |

| p | 0.833333333 | 0.5 | 0.166666667 | 0.5 |
| q | 0.166666667 | 0.5 | 0.833333333 | 0.5 |

| \( \sigma \) | 0.152145155 | 0.204124145 | 0.152145155 | 0.204124145 |
| Z-statistic | 1.959963985 | 1.959963985 | 1.959963985 | 1.959963985 |

| Lower bound approximate | 0.535134309 | 0.099924027 | -0.131532357 | 0.099924027 |
| Upper bound approximate | 1.131532357 | 0.900075973 | 0.464865691 | 0.900075973 |

Note: In this small sample, the exact Beta values (lower bound and upper bound) are far from the estimated Z values. Thus, the normal distribution does not properly estimate the sample. Its better to use the exact beta distribution.
Appendix 3: Beta values and Z values for McKinsey large sample.

<table>
<thead>
<tr>
<th>McKinsey category corresponding</th>
<th>Blogs</th>
<th>Web services</th>
<th>wiki</th>
<th>social networking</th>
</tr>
</thead>
<tbody>
<tr>
<td>McKinsey Sample (s)</td>
<td>911</td>
<td>2278</td>
<td>940</td>
<td>1053</td>
</tr>
<tr>
<td>McKinsey Sample (n)</td>
<td>2847</td>
<td>2847</td>
<td>2847</td>
<td>2847</td>
</tr>
</tbody>
</table>

| 1−α | 95,00% |
| α/2 | 2,50%  |
| 1−(α/2) | 97,50% |

<table>
<thead>
<tr>
<th>s</th>
<th>Number of successes</th>
<th>n</th>
<th>Number of trials</th>
<th>f=n-s</th>
<th>Number of failures</th>
</tr>
</thead>
<tbody>
<tr>
<td>911</td>
<td></td>
<td>2278</td>
<td></td>
<td>940</td>
<td>1053</td>
</tr>
<tr>
<td>2277</td>
<td>910</td>
<td>2277</td>
<td>939</td>
<td>1052</td>
<td></td>
</tr>
<tr>
<td>1936</td>
<td>569</td>
<td>1907</td>
<td>1794</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1936</td>
<td>568</td>
<td>1906</td>
<td>1793</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Lower bound exact β | 0.302737176 | 0.78518 | 0.31278 | 0.352 |
| Upper bound exact β | 0.337235928 | 0.81463 | 0.34756 | 0.38768 |
| p               | 0.31998595  | 0.80014 | 0.33017 | 0.36986 |
| q               | 0.68001405  | 0.19986 | 0.66983 | 0.63014 |
| σ               | 0.0087424   | 0.00749 | 0.00881 | 0.00905 |
| Z-statistic     | 1.959963985 |        |        |        |
| Lower bound approximate | 0.302851161 | 0.78545 | 0.3129 | 0.35213 |
| Upper bound approximate | 0.337120739 | 0.81483 | 0.34745 | 0.3876 |

Note: In this large sample, the exact Beta values (lower bound and upper bound) are close to the estimated Z values.
Ashta & Assadi: Do Social Cause and Social Technology meet?

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