Small Business Finance in Bangladesh: Can "Crowdfunding" be an Alternative?

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ABSTRACT

This paper unearths a systematic problem in financing the small business firms in Bangladesh with the country's present financial structure, and reviews crowdfunding—a recently developed market-based phenomenon—as an alternative. The paper argues that crowdfunding approach can effectively solve this systematic problem by filling the gap left by the microcredit institutions and commercial banks. Crowdfunding can also be used for financing the young startups without replacing business angels and venture capitalists, and it can be a part of the country's inclusive growth framework.

JEL Classification: G21, G24, G32, L26
Keywords: Small Business Finance, Crowdfunding, Music Securities, Bangladesh

1. INTRODUCTION

Of late, "crowdfunding" (also known as "crowdfinancing" or "crowdsourced capital") has been appeared to be a popular approach to financing the startups and small firms[1] in a number of developed countries including Netherland, France, Germany, Australia, Canada, Japan, the U.K. and the USA. Crowdfunding can be defined as a practice of funding a startup or a small firm by raising small amounts of money from a large number of people by utilizing online social media such as Facebook, Twitter, LinkedIn and other specialized blogs. It is an organized collective effort of many non-professional people who are embedded in trust to finance a venture via the internet. This new form of financial technology emerged in the wake of 2008 financial meltdown in response to the increased difficulties faced by the small business firms in obtaining funds from the traditional banking system. Over a span of six years, crowdfunding has grown substantially across the developed world—from $0.53 billion in 2009 to $5.1 billion in 2013 (massolution.com, 2013). Considering this spectacular growth of crowdfunding, this paper (1) reviews problems of the existing financial players in Bangladesh in intermediating finance to the small firms, (ii) examines crowdfunding types,

[1] The definition of small firms varies across countries. In Bangladesh, small firm in the manufacturing sector is defined as an industrial undertaking with real assets of Tk. 5 million to 100 million (excluding land and factory building) or having employees between 25 and 99. For other sectors, small firms are those that have real assets of Tk. 0.5 million to 10 million or employees between 5 and 25 (Ministry of Finance, 2010).

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models and trends, and (3) advocates building up a crowdfunding ecosystem as an additional institutional form of financing the small firms in Bangladesh.

The remainder of the paper is organized as follows. Section 2 reviews the problems of small business finance in Bangladesh. Section 3 discusses concepts, types and models of crowdfunding. Section 4 highlights the trends and growth in crowdfunding round the globe. Section 5 discusses "Music Securities", a crowdfunding platform in Japan, as a case. Section VI concludes with some policy remarks.

2. SMALL BUSINESS FINANCE- A SYSTEMATIC PROBLEM IN BANGLADESH

Bangladesh mainly relies on the three distinct sets of financial intermediaries to cater to the financing needs of the entrepreneurs. These are the commercial banks which broadly include state-owned, private, foreign, and development financial institutions that work under the direct control and supervision of the Bangladesh Bank (the central bank of Bangladesh), stock markets, and a number of NGOs those mainly operate in the rural financial market. A close review of the performance of these financial players explains why small business firms in Bangladesh are systematically missed out from their attentions.

First, we examine the capability of the banking system of Bangladesh which is comprised of forty-seven (47) commercial banks including four (4) state-owned commercial banks (SCBs), thirty (30) private commercial banks (PCBs), nine (9) foreign commercial banks (FCBs), and four (4) development financial institutions (DFIs).These financial institutions follow Basel II guidelines in determining capital adequacy ratio (CAR) and risk of the banks. They also follow the Bangladesh Bank's risk assessment guidelines that require the maintenance of higher cash flows, quality collateral and sufficient capital, *inter alia*, in extending credits. Furthermore, all commercial banks requires maintaining a certain percentage of their demand and time liabilities in the form of statutory liquidity reserve (SLR) and cash reserve (CR) with the Bangladesh Bank to give protection to the depositors. This tight regulatory framework, of course, tends to increase the loan rationing behavior of the banking system following "bounded rationality". Credits are also to be intrinsically rationed in developing countries due to the problem of information asymmetry and moral hazards (Stiglitz and Weiss, 1981). In addition, excessive reliance on the codified system of assessing risks expects to generate a "credit crunch", especially for the small firms. This becomes clear when the percentage of total loans given to the small businesses in Bangladesh is analyzed. For instance, small firms received not even one percentage of the total loans disbursed by the banking system over the last 10 years, except for the case of term loan given in the year 2004 (Figure 1). Surprisingly, both the term loan and the working capital loan reduced to the lowest level in the year 2010, 0.04% and 0.05%, respectively, indicating a severe form of credit rationing. This implies that the banking system of Bangladesh either lacks skilled officers who can assess credit risk under uncertainties, or it fails to extend finance to the small firms because of the stringent regulatory framework.

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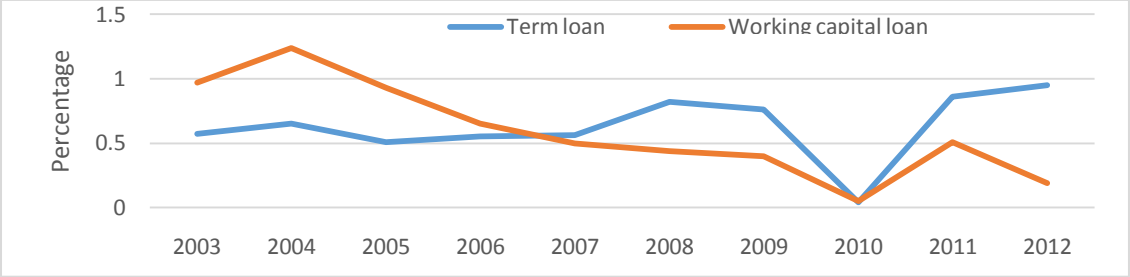
Figure 1: Disbursement of Loans to Small Firms



Source: constructed by authors based on data from schedule bank statistics, Bangladesh Bank.

Another reason for not extending credit to the small firms could be grounded on the low profitability and high NPLs of the banking system, especially for the SCBs and DFIs that together hold 31.5% of the total industry assets and 30.30% of the total industry deposits (Bangladesh Bank Annual Report, 2012). This becomes clear from the analysis of ROA and NPL data of the banking system of Bangladesh (Table 1).

Table 1: NPLs and ROA by Categories of Banks

Year	NPL (% of total loans)					ROA (%)				
	SCBs	PCBs	FCBs	DFIs	All Banks	SCBs	PCBs	FCBs	DFIs	All Banks
2003	29	12.4	2.7	47.4	22.1	0.1	1.1	2.8	0.7	0.7
2004	25.3	8.5	1.3	42.8	17.6	-0.1	0.8	2.4	0.3	0.5
2005	21.35	5.62	1.26	34.87	13.56	-0.1	0.7	2.6	0	0.5
2006	22.94	5.45	0.81	33.68	13.15	0	1.2	3.2	-0.2	0.7
2007	29.87	5.01	1.43	28.58	13.23	0	1.1	3.1	-0.1	0.6
2008	25.4	4.4	1.9	25.5	10.8	0.7	1.1	2.2	-0.2	0.8
2009	21.4	3.9	2.3	25.9	9.2	1	1.3	3.1	-0.3	0.9
2010	15.7	3.2	3	24.2	7.3	1.1	1.4	2.9	-0.6	1.2
2011	11.3	2.9	3	24.6	6.1	1.3	1.6	3.2	0.4	1.4
2012	23.9	4.6	3.5	26.8	10	-0.6	2.1	2.9	0.2	1.8

Source: adapted by authors from the various annual report, Bangladesh Bank.

According to Table 1, the banking system as a whole holds a 10% NPLs with a 1.8% ROA in 2012. On cluster wise, however, SCBs and DFIs hold an alarming amount of NPLs (23.9% and 26.8% respectively, in 2012) with a poor record of ROA (-0.6% and 2.9% respectively, in 2012). Apparently, this indicates that SCBs and DFIs cannot take the additional risk involved in financing the small firms because such an initiative may fuel their NPLs further and bring financial mishaps in the country. On the other hand, PCBs and FCBs, which are relatively found in a better position in terms of curving NPLs and increase of ROA, usually follow "branch banking"[2] and "selective credit policy" approach which impede them to open branches in rural areas and to disburse funds to the uncertain small firms. Notably, under a free and a fair policy framework, the government also cannot compel the PCBs and FCBs to provide credits to the small firms. As a whole, it is evident that the banking players of

[2] Under the branch banking, new branches are opened only in profitable areas.

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Bangladesh face a systematic problem in providing finance to the small businesses. Moreover, they seem to be less resilient, highly distorted, fragmented and less competitive when their levels of NPLs and ROAs are compared.

Second, we shed light on the performance of the stock markets of Bangladesh to understand whether they can provide finance to the small firms at their present status. Bangladesh has two stock markets—the Dhaka stock market and the Chittagong stock market. These two stock markets reveal that the number of companies that raised capital via them over the last 10 years is very limited, and in many cases, a number of companies delisted their status (Table 2). They also demonstrate a rate of negative growth over the last couple of years when the growth of the general share price index (GSPI) is considered. Furthermore, these two stock markets exhibit poor efficiency in allocating capital to the productive sectors when the stock turnover velocity (TV) and the number of newly listed companies are taken into account, although the financial depth (measured as market capitalization over GDP) is found to be improved in the last couple of years. As a whole, the stock market exhibits dismal performance in intermediating finance even to the established firms. Unfortunately, Bangladesh does not have any separate markets for the startups or innovative small firms that can provide opportunities to raise capital with a minimum listing standards as is seen in the case of "mothers" in Japan, "ChiNext" in China and "kosdaq" in Korea.

Table 2: Stock Markets Performance in Bangladesh

Year	Dhaka Stock Exchange (DSE)				Chittagong Stock Exchange (CSE)			
	NLC	GSPI Growth	TV	MC/GDP	NLC	GSPI Growth	TV	MC/GDP
2005	-8	30%	17%	4%	12	-6%	7%	65%
2006	16	-22%	35%	6%	1	10%	6%	59%
2007	4	60%	22%	5%	14	106%	6%	65%
2008	13	40%	40%	9%	11	14%	9%	130%
2009	14	0%	27%	14%	-21	52%	12%	148%
2010	-29	104%	89%	16%	8	78%	11%	239%
2011	-1	-1%	119%	33%	16	-37%	11%	430%
2012	12	-25%	141%	29%	14	-14%	9%	248%
2013	14	-4%	61%	21%	14	3%	7%	195%

Source: Authors' calculations based on data from Bangladesh Bank Quarterly (various issues), and Portfolios of CSE (various issues).

Notes: (a) NLC = newly listed company, GSPI = growth of the general share price index, TV = turnover velocity measured as annual stock turnover over GDP, MC = Market Capitalization; (b) in 2004, the number of listed companies in DSE and CSE was 267 and 198, respectively.

Finally, we examine the activities and performance of non-government organizations (NGOs) taking into account the Grameen Bank that earned widespread recognition and subsequently received a Nobel Prize for Peace in 2006. Notably, Grameen Bank targets socially and economically marginalized women to give them credit under a framework called "solidarity group lending model." This group lending model creates sufficient moral pressure on the members of the group in screening the loan applicants and paying the installments spontaneously as the group is jointly held responsible for any lapses in the repayment of credit. As a result, it successfully reduces transaction cost, risk premium and moral hazards in

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financial intermediations. This becomes clear from the analysis of the "cost of funds" and "return on investment" data of the Grameen Bank (Table 3). As is observed from Table 3, the average cost of funds and return on loans for Grameen Bank are 7.54% and 17.49% respectively, showing an effective spread (return on loan – cost of fund) around a 9.93% on average during the past 10 years. Indeed, this is an impressive performance record of the Grameen Bank. On this performance, a question may arise – can Grameen Bank takes the responsibility in financing the small firms? We argue that at the present setting, Grameen Bank and for that matter any other NGOs cannot provide credits to the small businesses because of several reasons, as follows.

Firstly, Grameen Bank provides microcredit to the rural women mainly for income generating activities that usually falls between $100 and $3500. However, small firms require a relatively larger amount of funds for their growth that do not fall under the definition and range of microcredit. Secondly, Grameen Bank uses solidarity group lending model with a joint liability system where group members usually know each other, and some of them may be kin. It is hard to make such a kinship based solidarity group with a joint liability condition to extend finance to the small businesses because small firms differ from one to another with respect to risks and entrepreneur's background. The entrepreneurs are also not likely to be the kinsfolk. It may also increase potential "loan sharks" as an individual member may not perfectly watch and control the activities of other members of the business group. Thirdly, Grameen Bank charges higher interest rate and takes a weekly repayment. Such lending behavior is not viable for the small firms because it increases the mortality rate of the firms by shrinking operating cash flows that are necessary for their growth. Fourthly, Grameen Bank keeps a substantial amount (approximately 40%) of funds in different commercial banks as a fixed deposit that provides a10.29% risk-free rate of return on an average (Table 3). Such fixed deposits may be considered as a cushion for the bank's operation, but it does not match with the lending model of Grameen Bank. Finally, on a legal side, Grameen Bank or any other NGOs cannot take part in business activities because they are not registered under the Companies Act 1994 and do not pay tax on their profits. Moreover, donors often impose restrictions on the use of funds for commercial business activities.

Table 3: Average Return on Investment and Cost of Funds for Grameen Bank

year	Average Fund Cost[a] (1)	Average ROL[b] (2)	Average RFD[c]	Average ROL and FD[d] (3)	Spread A = 3-1	Spread B = 2-1
2003	5.8	16.3	9.2	14.6	8.8	10.5
2004	6.2	16.7	9.1	14.7	8.5	10.5
2005	6.3	16.4	8.5	14.4	8.1	10.1
2006	7	18.4	8.6	14.8	7.8	11.4
2007	7.8	18	11.9	15.6	7.8	10.2
2008	7.8	17.1	11.4	14.9	7.1	9.3
2009	7.9	17.4	10.5	14.6	6.7	9.4
2010	8.66	18.18	12.68	17.48	8.82	9.52
2011	8.94	18.37	11.9	16.56	7.62	9.43
2012	9.04	18.08	9.12	15.86	6.82	9.04
Average	**7.54**	**17.49**	**10.29**	**15.35**	**7.80**	**9.93**

Source: Authors' calculations based on Grameen Bank's financial statements.

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Notes: Average Fund Cost = interest expense/ (deposit +borrowings), (b)Average ROL (Return on Loans) = interest on loans and advances/total loans and advances, (c) Average RFD (Return on Fixed Deposit) = interest income on FD (fixed deposit)/ total FD, (d) Average ROL and FD = interest income on both loans and FD/ (loans +FD)

In sum, the banking system of Bangladesh uses codified risk assessment system following the Bangladesh Bank's risk assessment guidelines and Basel II framework that deter investment in small firms exposed to higher uncertainties. The SCBs and DFIs also suffer from a lower level of profitability and an alarming level of NPLs. Thus, it is not advisable to direct them to extend finance to the unreliable small firms as such an initiative is likely to erode their profitability further. On the other hand, the two stock markets tend to be virtually ineffective in channeling funds even to the large firms due to the involvement of some ill-motive vested groups and the government's failure to arrest the perpetrators. Bangladesh also does not have separate stock markets for promoting finance to the innovative startups and small firms. Finally, Grameen Bank and other NGOs operate under a separate legal framework to give credits to the poor and marginalized women, and it is not suitable for the small firms. These entire situations, in fact, reveal a systematic problem of the existing financial players in Bangladesh in meeting the credit needs of the small businesses. Thus, a million dollar question arises as to what can be an alternative approach to financing the small businesses? Can crowdfunding make the wonder in this respect? We discuss this issue in the next section.

3. CROWDFUNDING—CONCEPTS, TYPES, AND MODELS

Crowdfunding is a new form of market-based finance. It leverages the power of web-based technology to pool funds from multiple investors in a smaller unit to fund a project and hold entrepreneurs accountable. The uniqueness of crowdfunding is that it provides an opportunity to the crowd to closely involved with the entrepreneur's firm either as an active investor or a consumer or both. Furthermore, it reduces transaction costs in intermediating finance and provides more freedom to the entrepreneurs to the use of funds. However, empirical literature on the diverse issues of crowdfunding has been limited thus far, although growing quickly (see for instance, Mollick, 2014; Kirby and Worner, 2014; World Bank, 2013, Ahlers et al., 2013, Cumming and Johan, 2013; Belleflamme et al., 2010, Harms, 2007). Thus, a clear understanding of the crowdfunding concepts, types and models is of particular importance for developing an effective crowdfunding ecosystem. These are discussed below, in details.

3.1 Crowdfunding Concepts

The term "Crowdfunding" has been derived from the term "crowdsourcing" that refers to the process of obtaining needed services, assets, knowledge, or ideas by soliciting contributions from a large number of individuals — a "crowd of people" especially from the online community rather than from traditional employees or suppliers. In crowdfunding, the same process is followed but the objective becomes to the raise of funds in a smaller unit for a predefined purpose — to finance a project or an idea or to help a philanthropic organization. As Lambert and Schwienbancher (2010) note,

> "Crowdfunding involves an open call, essentially through the internet, for the provision of financial resources either in the form of donations (without rewards) or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes" [Lambert and Schwienbancher, 2010, p.6].

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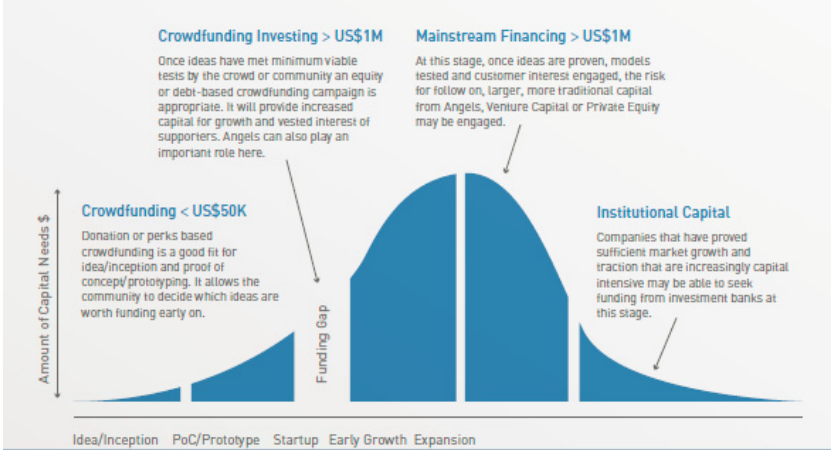
In fact, crowdfunding can be viewed as a by-product of information technology. Its basic foundation is rooted in the three factors: trust, internet technology and willingness of the people. The idea of receiving finance through internet calls is not a new phenomenon. It dates back in 1997 when the British rock band "Marillion" collected $60000 from their fans through an internet call to finance its US concert tour. However, this money was given as a donation, not on a commercial motive. Crowdfunding emerged as a business tool for financing the startups and small firms just after the 2008 financial meltdown that tightened, *among other things*, the lending requirements of the commercial banks. A unique feature of crowdfunding is that it exploits the new features of the Web 2.0, especially viral networking, marketing and social media, to pool funds from mass people within a relatively shorter period (Hemer, 2011). Moreover, it reduces the transaction cost of investment and provides fund suppliers' an opportunity to be as a quasi-monitor of the investee firms. This happens because data on available investment opportunities and reactions of other fund suppliers can be centrally accessed under the crowdfunding system. On the other hand, entrepreneurs also enjoy sufficient freedom to the use of funds in comparison to the traditional bank finance that takes a contractual obligation.

Crowdfunding should not be confused with microfinance that the Grameen Bank of Bangladesh provides. Microfinance is predominantly a bank based exercise, whereby the bank is solely the originator, provider, and risk-taker of the loan. By contrast, in crowdfunding, the crowdfunding platforms (CFPs) originate the fund, and the fund suppliers (ordinary people) bear the risk of the fund. Most importantly, growth firms require a relatively larger amount of funds that cannot be obtained through the microcredit institutions, as it exceeds their funding limit. However, the power of social networks helps obtain such funds. Given this point, crowdfunding fills the gap left between microfinance and institutional investors, and it does not combat with microfinance and venture capitals.
Figure 2 identifies the place where crowdfunding fits into the funding life cycle of a growth firm and fills the funding gap mentioned previously. According to Figure 2, startups with high growth potential are the better candidates for donation or perks-based crowd funding. However, when the firm grows, equity-based or lending-based crowd funding takes the front (see section *III.2* of this paper). Notably, these two types of crowdfunding do not displace the venture capitalists or angel investors rather serve as a substitute for them, meaning that all of them can separately or collectively supply finance to the startups.

Figure 2: Crowdfunding Adoption Curve



Source: World Bank, 2013

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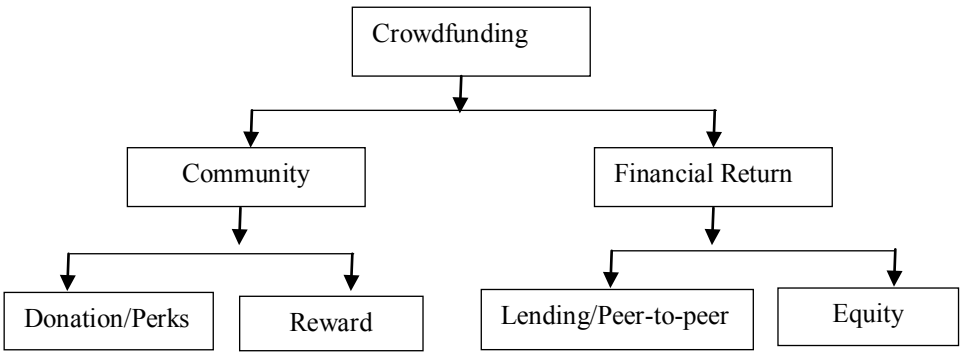
3.2 Types of Crowdfunding

Crowdfunding can be broadly categorized into two groups: community crowdfunding and financial return crowdfunding (Figure 3). Community-based crowdfunding is again divided into "donation-based" or "perks-based" crowdfunding (from now on "donation-based") and "reward-based" crowdfunding. Likewise, financial return crowdfunding is divided into "lending-based" or "peer-to-peer" crowdfunding (hereafter "lending-based") and "equity-based" crowdfunding. Donation-based crowdfunding and reward based crowdfunding are popularly used to raise funds for a philanthropic purpose or prepaying a product from a business. For example, Nakedwins.com raised $10 million for expanding markets into the US and Australia (Robinson, 2013). Donation-based crowdfunding usually does not provide any financial return to the fund suppliers, whereas reward-based crowdfunding provides a token gift to the fund suppliers as an appreciation. By contrast, lending-based crowdfunding and equity-based crowdfunding are used for a commercial motive to raise capital by selling financial instruments against firm's assets. Notably, in a lending-based crowdfunding, fund suppliers receive a fixed interest and principal on maturity or a specified schedule. This type of crowdfunding is suitable for the small firms as they usually fail to obtain funds from the commercial banks because of stringent regulatory requirements. By contrast, fund suppliers under the equity-based crowdfunding receive dividends in the form of cash or stock or any profit-sharing arrangements, and it is particularly suitable for the growth firms. Notably, equity fund providers are ranked below the creditors for being a residual claimant that may raise conflicts with the security laws adopted for the investors in traditional stock markets. Hence, the application of equity crowdfunding requires additional or more complex security laws.

Figure 3: Types of Crowdfunding



Source: Authors.

3.3 Crowdfunding Models

As previously mentioned, crowdfunding leverages the power of information technology, particularly social media, and networks, to supply less cost finance to the fund seekers. While community-based crowdfunding could take place in a simple form, as the crowdfunding platform (CFP) could be set up within the entities seeking finance or asked an independent outside CFP to raise funds for them without taking many legal formalities, the financial return crowdfunding model is often diverse and complex in nature. The structure of the financial return model largely depends on the levels of trust, rooms for opportunism, access to information technology, willingness of the common people, status of legal regulations, and

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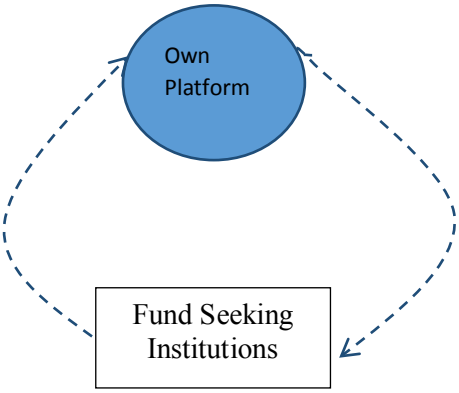
the objectives of setting up the platforms. Taking the above issues into account, we discuss popular models of crowdfunding briefly in Sections 3.3.1 to 3.3.2. We also present a more complex financial crowdfunding model that can be applied only in a highly sophisticated financial market.

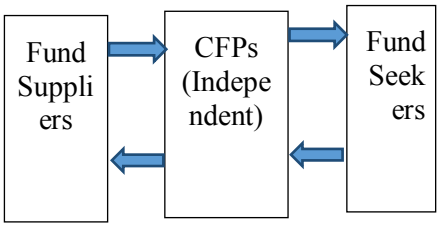
3.3.1 Community-based Crowdfunding Model

Under the community-based crowdfunding approach, an entrepreneur can create a separate blog in his website or ask a CFP to mobilize funds for him (Flowcharts 1 and 2). In the former case, the fund campaigning is done by the entrepreneur himself (Flowchart 1). In the latter case, this is done by an independent CFP taking a fixed fee or a percentage of the collected funds (Flowchart 2). In this approach, investors usually do not expect any financial return (donation-based crowdfunding) on their invested funds although they can receive a token gift in kind (reward-based crowdfunding). As a result, community-based crowdfunding is mainly used by charitable and research institutions.

Flowchart 1: Self-initiative Crowdfunding



Flowchart 2: Independent Crowdfunding



Source: authors.

3.3.2 Financial Return Crowdfunding

Financial return crowdfunding is used for a business motive — to finance the working capital requirement of a firm, expand product lines, purchase a sophisticated facility or anything that is important for advancing the growth of a firm. As previously mentioned, financial return crowdfunding can take many forms depending on the socioeconomic dynamics of a country and characteristics of the fund suppliers. However, the popular financial crowdfunding models are as follows.

3.3.2.1 Client Segregated Model

Under this model, an individual fund supplier (debt instrument) meets with an individual borrower through the CFPs, and they set debt contract between them with little participation by the CFPs. CFPs offer automated bidding option that help lenders to bid on loans in an auction style. All funds from lenders and borrowers are kept in a legally separated client account to avoid conflicts between platform's assets and funds with lenders and borrowers in the event of bankruptcy. This practice also ensures the existence of contractual obligation between lenders and borrowers even after the platform's failure. In this arrangement, CFPs receive a loan origination fee from the borrower, either in a flat rate or a percentage of the loan amount funded. The lender pays a fixed administration fee for assessing the creditworthiness of the borrowing firm and collecting the loan repayment. The lender is also

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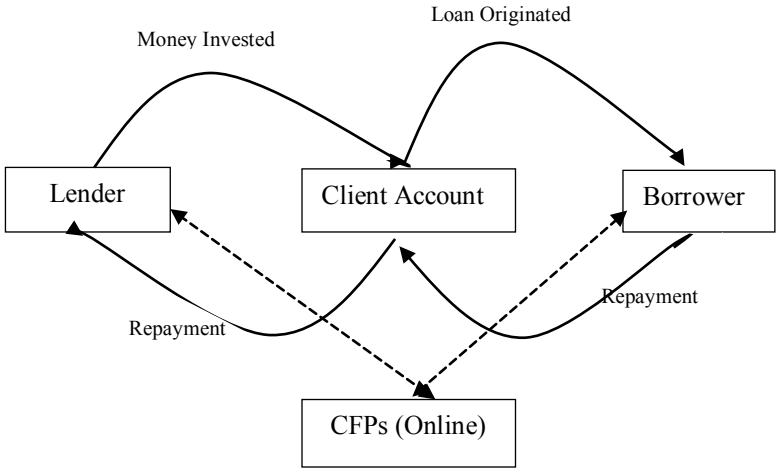
charged additional fees if they use other services provided by the platform such as the sale of the loan portfolio on a secondary market. Flowchart 3 presents the client segregated account model.

Flowchart 3: Client Segregated Model

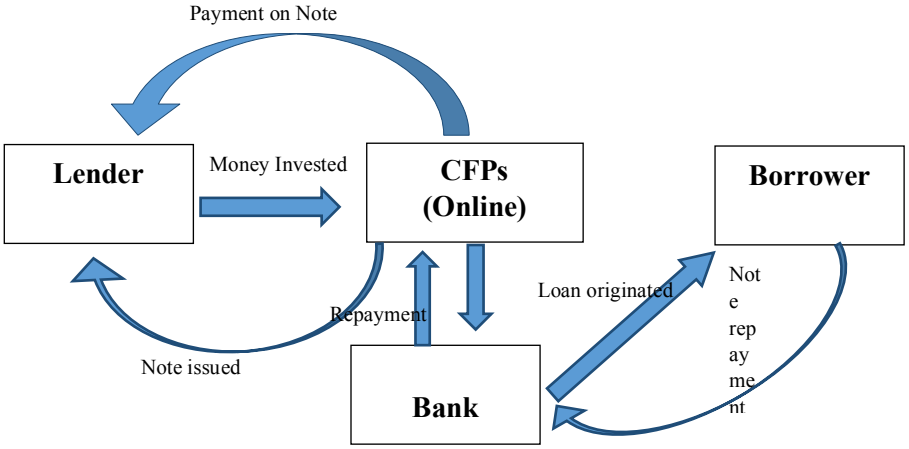


Source: Adapted by authors' from Kirby and Worner (2014)

3.3.2.2 Notary Model

Under the notary model, CFPs introduce an individual lender to an individual borrower so that the lender can bid on the loans they want in their portfolios. The loan is originated when the amount of fund reaches to the required level. However, in this case, CFPs do not originate the loan. A bank originates the loan. Then, CPFs issue a legal note (notary) to each lender for the value of his/her contribution to the loan. This, in fact, shifts the risk of loan non-repayments from the loan originator (bank) to the lenders. In this model, the CFPs receive fees similar to that in the client segregated account model. This is a popular funding approach in the US and particularly used by the Prosper and Lending Club platform (Kirby and Worner, 2014). Flowchart 4 summarizes this model.

Flowchart 4: Notary Model



Source: Adapted by authors' from Kirby and Worner (2014)

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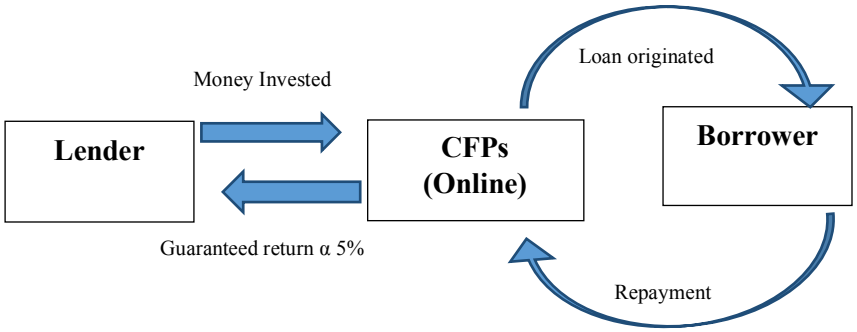
3.3.2.3 Guaranteed Return Model

This model allows the lender to invest in a borrowing firm at a fixed rate of return guaranteed by CFPs (Flowchart 5). In this approach, CFPs assume the risk of loan non-repayments on behalf of the borrowers and provide a guaranteed return to the lenders. This model can be extended to "offline guaranteed return" model or "automated guaranteed return model". In the offline guaranteed return model, investors' first look for potential borrowers at their local community through face to face communication and assess their creditworthiness. Then, the loan is listed on the CFPs so that lenders can invest in the loan. Once the loan is originated, CFPs take the responsibility to pay a fixed return to the lender over the tenure of the loan. This model is very popular in China, and it is used by Credit Ease platform (Kirby and Worner, 2014). By contrast, in the automated guaranteed return model, lenders deposit their investible funds in CFPs in advance, and then, CFPs invest those funds to available borrowers through their investment preference metrics. For borrowers, the loan contains a 12% interest rate with a two weeks grace period, and they need to pay CFPs a fixed fee for administering the loan. For lenders, it pays a 12% assured return. This method is practiced by TrustBody International AB in Norway (Kirby and Worner, 2014).

Flowchart 5: Guaranteed Return Model



Source: Adapted by authors' from Kirby and Worner (2014)

3.3.2.4 Equity-based Crowdfunding Model

In this model, firms ask the CFPs to post their equity offerings on the campaign pages. Then, they use social media and personal networks to invite investors to buy their shares. Investors become equity stakeholder after buying the shares and receive a dividend as a return on their investment. In this model, investors take the risk of finance and become the "residual claimants" of the investee firm. On the other side, CFPs receive a flat rate from the firms on the amount of funds raised by them. They also receive a fixed fee from the firms for doing the public relation activities on their behalf. This type of crowdfunding is suitable for the startups and young firms as they can receive a large number of non-contractual funds from the crowd in a short span that is important to augment their growth. Crowdcube in the U.K. is a famous example of this type of platform (Kirby and Worner, 2014). Notably, equity CFPs perform the similar functions that a stock exchange does. Therefore, the application of equity crowdfunding requires the compliance of the security laws of a country to protect investors from frauds and unfair means (Flowchart 6 summarizes the equity based crowdfunding model).

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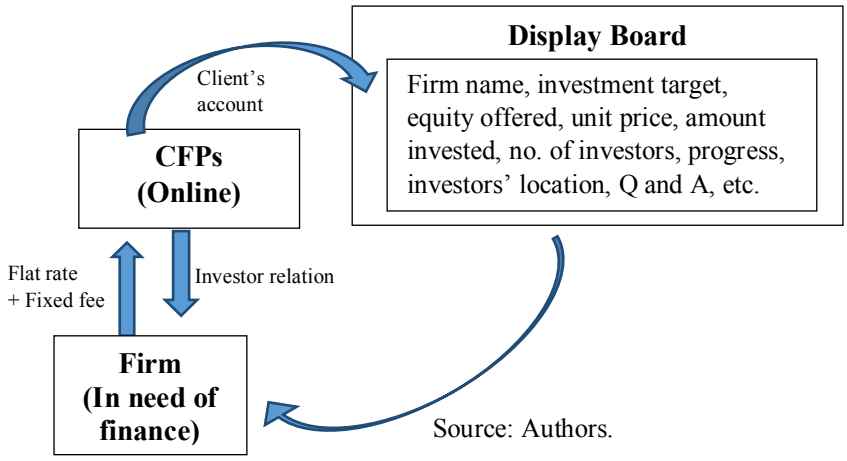
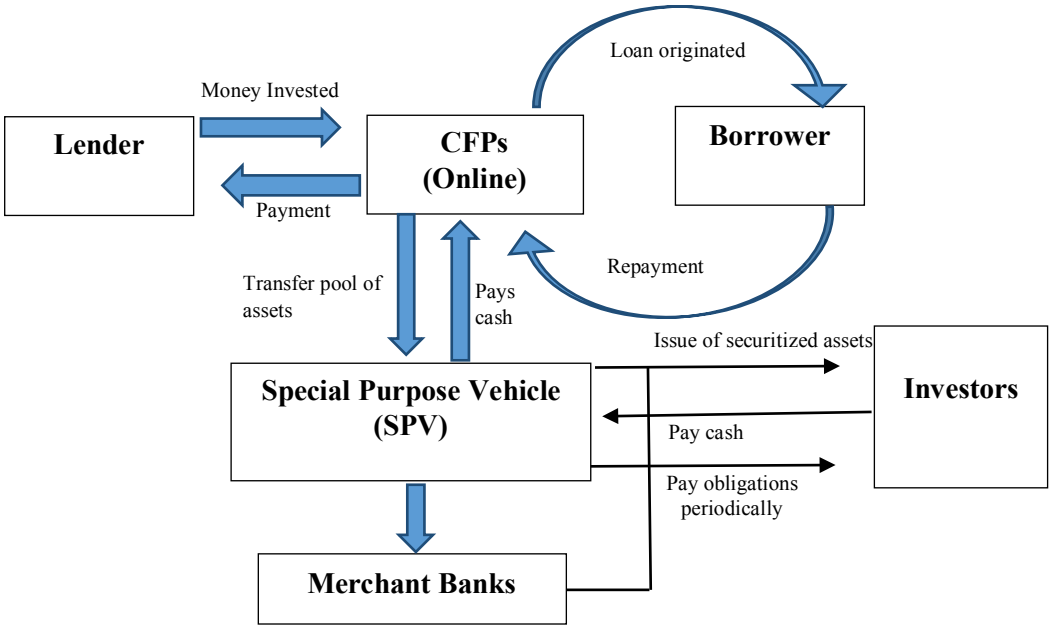
Flowchart 6: Equity-based Crowdfunding Model



Source: Authors.

It is worth to note that although the models discussed above are presently found in practice, there could be more complex models depending on the investors' sentiment and financial structure of a country. One of such models could be Crowdfunding Asset Securitized Model"[3] (Flowchart 7).

Flowchart 7: Crowdfunding Asset Securitized Model



Source: Authors.

Under the crowdfunding asset securitized model, CFPs create marketable debt securities (derivative security) against their loan assets and link them into the organized security

[3] We give this name in this paper as to our knowledge no one pointed out such a model thus far.

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markets. CFPs usually create a special purpose vehicle (SPV) to issue such debt securities, collect the sale proceeds, and pay the obligations (interest and principle) to the investors. SPV can also appoint professional merchant bankers to issue the security in the organized market for a fixed fee or a commission (Flowchart 7). Obviously, this type of model is very complex in nature and requires the utmost care to prevent unexpected mishaps.

4. CROWDFUNDING—TRENDS AND GROWTH

Crowdfunding is a new phenomenon in the capital market. The industry is in its infant stage. There is a shortage of data to gauge the performance of the companies that received crowdfunding supports. Empirical research on crowdfunding is also limited. On this backdrop, we present the status of the crowdfunding industry based on the data taken from massolution.com—a private firm that reports patterns of crowdfunding. According to Massolution, the crowdfunding industry grew from $0.53 billion in 2009 to $5.1 billion in 2013, showing a 76% growth rate on an average (Figure 4). In 2013, the industry grew by 89% in comparison to last year (2012). Likewise, the number of active CFPs grew from 96 in 2007 (the inception period of the industry) to 536 in 2012, showing a 537% growth rate in 2012 against the base year 2007 (Figure 5).

Figure 4: Size and Growth of CF Industry

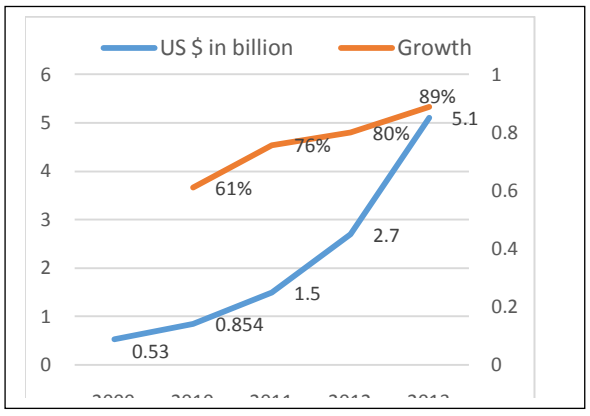
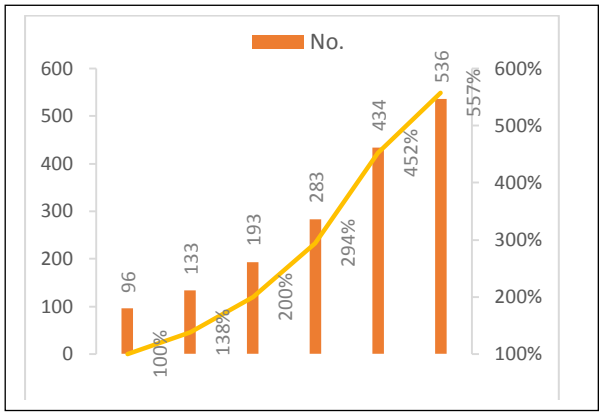


Figure 5: No. and Growth of CFPs



Source: Adapted by authors from Massolution (2013)

Regarding the number of CFPs by countries, the USA alone holds 191 CFPs (approximately 48% of the world CFPs) in 2012 followed by the UK and Netherlands that hold 44 and 29 CFPs, respectively (Figure 6). On the other hand, the reward-based CFPs receive the highest popularity among different types of CFPs. By contrast, the equity-based CFPs demonstrate a higher growth rate over other forms in 2011 (Figure 7).

Figure 6: No. of CFPs by Top Countries in 2012

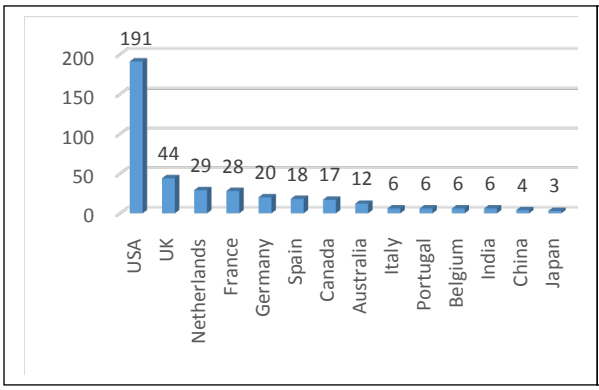
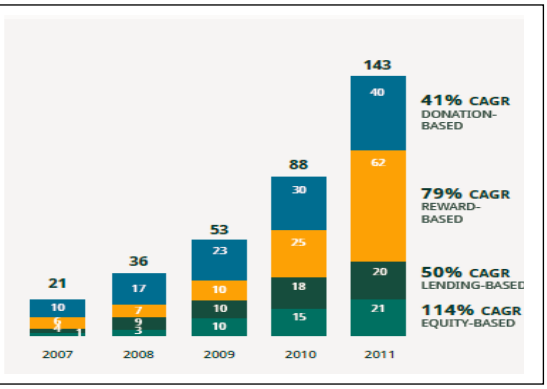


Figure 7: No. of CFPs by Types of Crowdfunding in 2011



Source: Adapted by authors from Massolution (2013)

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As for the size of funds by regions, North America dominates the crowdfunding industry by holding 60% ($1606 million) of the total funds ($2.67 billion) (raised in 2012) followed by Europe that holds 35% (Figure 8). Besides, equity-based CFPs raised most funds per project in 2011 as compared to the donation-based and reward-based CFPs (Figures 9 and 10).

Figure 8: Funds by Regions in 2012

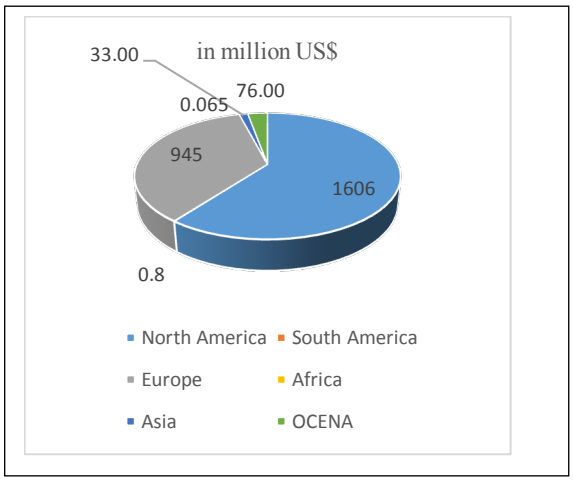
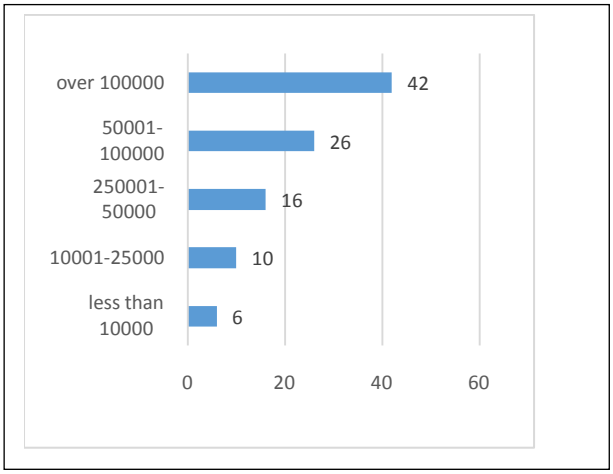


Figure 9: Funds Paid per Equity based Projects in 2011 (%)



Source: Adapted by authors from Massolution (2013)

As regards to the attractive sectors of investment, firms for social causes received significant investment in 2012. Besides, sectors such as business and entrepreneurship, films and performing arts, music and performing arts, and energy and environment received importance in obtaining funds from CFPs (Figure 11).

Figure 10: Funds Paid per Donation and Reward based Projects in 2011

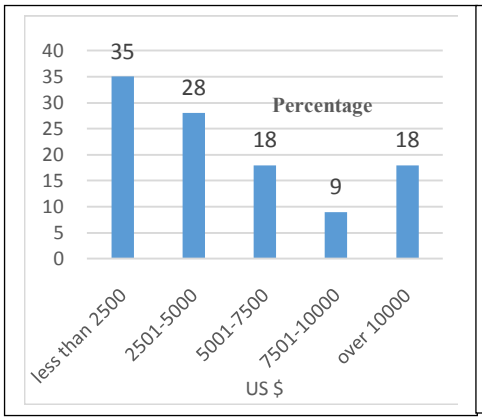
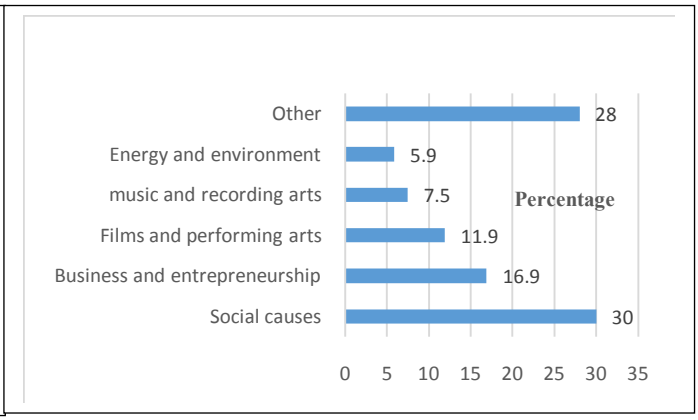


Figure 11: Crowdfund Investment by Sectors in 2012 (%)



Source: Adapted by authors from Massolution (2013)

Recently, the lending-based crowdfunding has been very attractive in the in the UK, the US, Germany, Estonia, and France, indicating a potential avenue for raising finance for the small firms and startups. In fact, lending-based crowdfunding reached above $2.5 billion in 2013

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(Figure 12). Regarding time taken by the CFPs in obtaining funds, lending-based CFPs took 4.8 weeks on an average from the date of the campaign (Figure 13). This is, in fact, half of the time taken for projects posted in the equity-based CFPs. However, projects posted on the donation-based and reward-based CFPs took about ten weeks on average. Surprisingly, reaching the first 25% milestone and the last 25% milestone took the almost similar amount of time (10 weeks) for all types of CFPs. As a whole, CFPs seem to be very efficient in raising funds from investors in a short period that is indeed an indicative of future growth potential of the industry.

Figure 12: Lending Based Crowdfunding (in US $Billion)

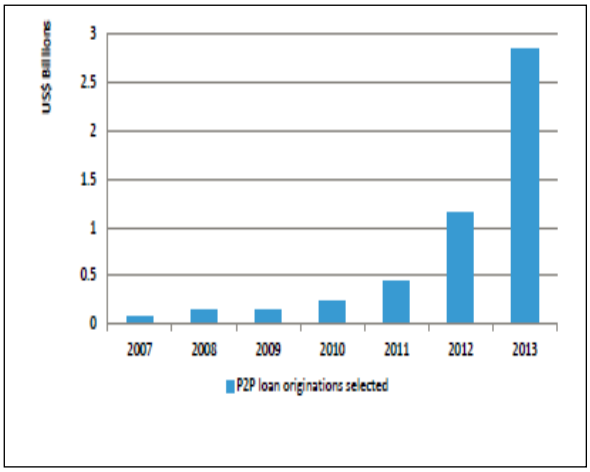
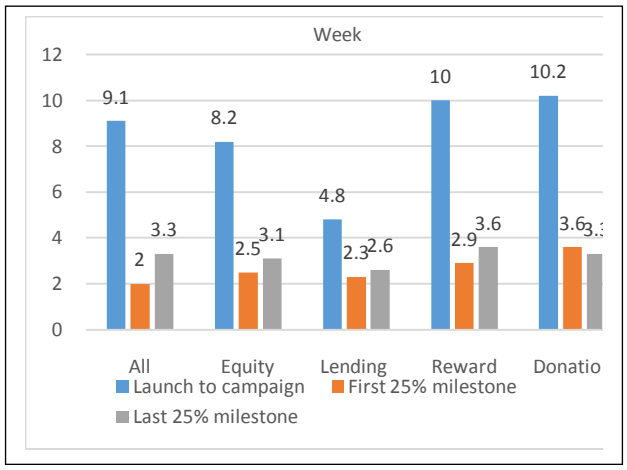


Figure 13: Campaign Time by Types of Crowdfunding



Source: Adapted by authors from Massolution (2013)

5. MUSIC SECURITIES— A CASE OF CROWDFUNDING PLATFORM IN JAPAN

Japan has always been unique in the world because of its intrinsic trust, tacit knowledge, and relationship-based governance framework, *among other things*, which are deeply rooted in its society over a prolonged period. In this setup, crowdfunding, which is mainly based on trust, expects to function well. Hence, we select Music Securities—a successful crowdfunding platform in Japan—as a case, to get a lesson.

5.1 Background of Music Securities (MS)

MS was set up by Mr. Masami Komatsu in 2001 as a Music CD production and marketing company. Komatsu was a musician. From his childhood, he was a fond of music. He got a Bachelor degree from Tama University and an MBA from Waseda University. He also did an internship at Goldman Sachs when he was a student, and thus, he had some knowledge of finance. As a musician, he wanted to keep a record of all his compositions by setting up a music company. However, he did not have enough money to set up a company on his own. The bank officials also rejected his loan application on the ground that his business does not fit with their lending requirements. As a last resort, he asked his fans to pay him some funds so that he can set up a music company. Fortunately, his fans contributed him some money as a donation and with that he established his company in Tokyo in 2001. However, the company entered into the crowdfunding business in 2007 when the Development Bank of Japan (DBJ) introduced a "Sake Brewery" firm for giving a possible financial help. Notably, Sake production needs relatively longer time (in this case, it was two years), and DBJ found it difficult to lend money for such an extended period. Mr. Komatsu accepted this Sake

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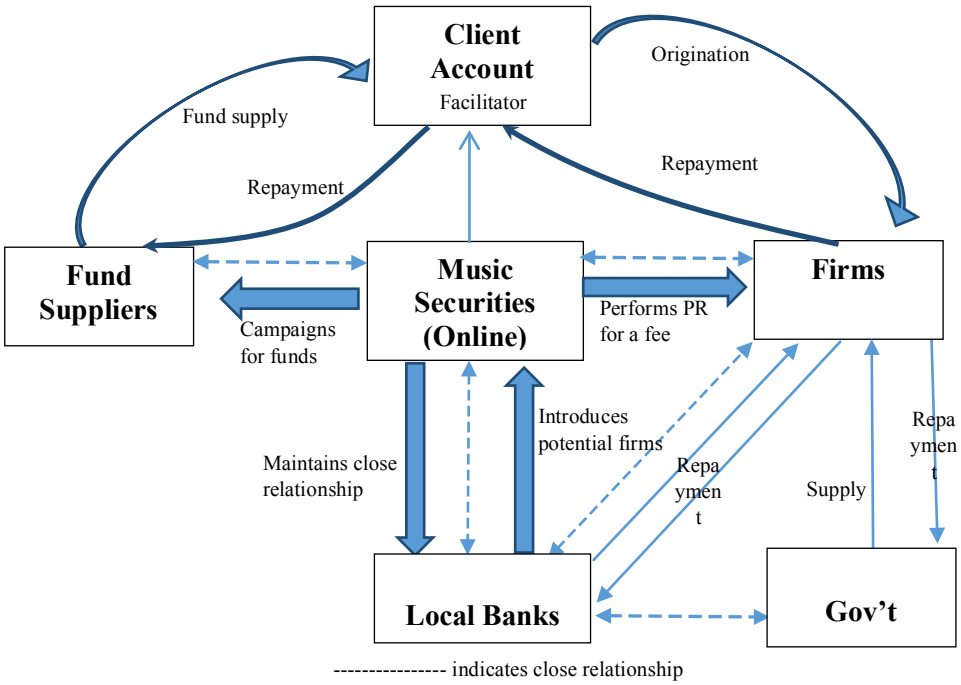
Brewery firm and used his social networks to raise funds by launching a campaign in his own company's website. The scheme of fund contained (1) a token gift of Sake bottle to all investors as soon as the fund reaches the target, and (2) extra bottles of Sake if the return on investments exceeds some predetermined threshold. The scheme created extra attraction especially for the Sake lovers as they got extra bottle opportunities, and the campaign became successful. Mr. Komatsu also invested a part of his music fund in this Sake Brewery firm. This was, in fact, the beginning of the crowdfunding business of MS. The company has a branch in Osaka. It runs with a Board of five members, all of them graduated from reputed universities in Japan. Besides Mr. Komatsu, major shareholders of the company include Tokio Marine Capital, Mitsubishi UFJ Capital, SMBC Venture Capital, Dentsu Shizuoka Capital, Hiroshima Capital, Shigagin Lease Capital, and Recruit Incubation Partners.

5.2 Business Model

MS follows a "relationship-based crowdfunding" approach with a long-term focus under the financial return crowdfunding framework that is somehow different from other financial return models discussed in Section III of this paper. Under this model, MS maintains a close relationship with the local banks to get potential firms for crowdfunding. Local banks usually send MS those firms that do not match with their lending strategies, because of either insufficient capital/collateral or higher perceived risks associated with the firm, but have great potential to grow. However, MS does not accept the firm directly rather uses its "due diligence" technique to reach a financial conclusion about the firm. Finally, MS posts financial and non-financial information about the firm on its campaign page and uses its client database to raise funds.

Flowchart 8: Relationship-based Crowdfunding Model



Source: Authors' construction.

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MS operates under the Silent Partnership Act in Japan. It acts just like an introducer of investors to the funding firms. Thus, the funds are managed by the firms themselves, and MS receives a fee (usually 5.7%) from the investors on their invested amount as a service charge. MS also does some public relationship activities on behalf of the investee firm. Besides, MS performs the role of a quasi-monitor of the firm. Investors, on the other hand, use their social networks to monitor the firm indirectly. In this model, investors do not demand any guaranteed return on their investment but expect a good return in the long run. Notably, at a later stage, when required fund is obtained, and firms start growing, local banks also extend finance to the firm, and usually, they become a debt partner of the firm. At this stage, local banks also act as a quasi-monitor of the firm that further reduces moral hazards of the investor. Sometimes, local government also provides finance to the firm at a lower cost, if it carries a national interest. As a whole, this relationship-based crowdfunding approach integrates different stakeholders at an agreed goal i.e. making a profit in the long run. Flowchart 8 summarizes the MS's crowdfunding business model.

5.3 Key Performance Statistics

With the introduction of Sake Brewery firm in 2007, MS has raised 256 funds so far for 148 firms of which 174 funds are currently in operation, and 82 funds are repaid to the investors with a success rate, 81% (Table 4). At present, MS has a collaboration with 21 local banks that send potential firms to MS for crowdfunding. Notably, MS has around 70,000 registered members who contribute to the firms posted for crowdfunding. The size of funds that MS raised for the firms varies largely, ¥15.36 million on average with a minimum of ¥0.53 million, and a maximum of ¥200 million. Similarly, the subscription amount (in unit) varies by funds although the usual amount per unit is ¥10000. As for the age of fund suppliers, approximately 56% of the total fund suppliers belong to the age group between the 30s and 40s of which nearly 19% are women. By contrast, nearly 9% of the fund suppliers belong to the ages within the 20s, whereas around 18% go to the people over 60s (Table 5). Importantly, 50% of the fund suppliers are company employees followed by self-employed people, housewives and students who collectively contribute nearly 24% of total funds (Figure 14). In addition, approximately 23% of the fund suppliers live in Tokyo followed by Kanagawa, and they supply nearly 11% of the total funds.

Table 4: Descriptive Statistics of Crowdfunding

Number of investee firms	148	Number of collaborations with Chamber of Commerce	2
Number of funds	256	Number of funds given to music industry	>50%
Number of funds successfully repaid to investors	82	Average Size of Fund (¥ mil.)	15.36
Number of funds that produced fewer returns to investors than expectation	16	Funding period	3-10 years
Number of funds currently managed	174	Amount per unit (Depends on size of funds)	¥10000 (usually)
Number of local collaborative banks	21	Number of registered members (investors) (approx.)	70000

Source: MS's Website, July 4, 2014

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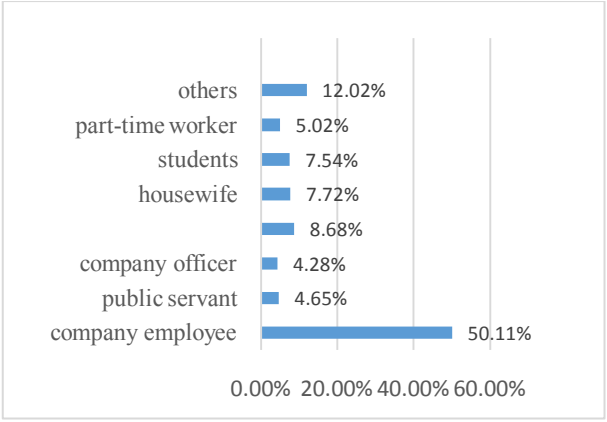
Table 5: Fund Suppliers' Age

Age (years)	Sex		
	Male	Female	Total
20 <	0.17%	0.06%	0.23%
20s	5.93%	2.89%	8.82%
30s	19.51%	9.37%	28.88%
40s	17.23%	9.29%	26.52%
50s	11.77%	6.19%	17.96%
The 60s or more	12.19%	5.39%	17.58%
Total	66.80%	33.19%	99.99%

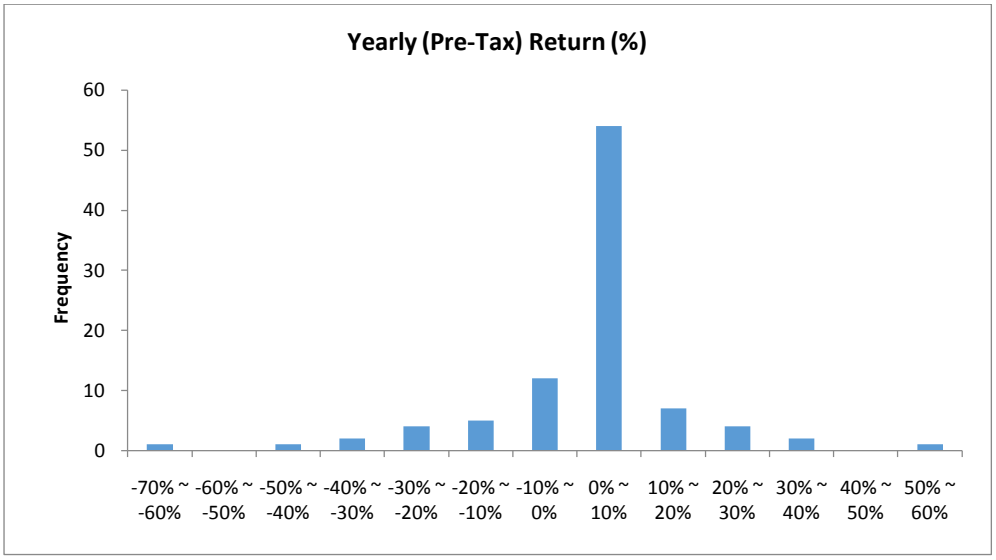
Figure 15: Fund Suppliers' by Professions



Source: Authors.

As regards to the return on funds, it is very difficult to offer a precise conclusion because many funds are yet to mature. However, based on the reported data of 93 funds in the MS's website, it is found that approximately 58% of the total funds generated a positive return between 0% and 10%, and nearly 8% of the funds made a return above 10%. By contrast, nearly 13% of the funds earned a return between -0% and -10%, and there were few outliers (Figure 16). It is worth to note that although the numerical returns of many funds are not seemingly attractive, however, their real rate of returns are very high if the number of jobs created by these funds is considered.

Figure 16: Return on Funds



Source: Authors.

5.4 Lessons

The crowdfunding model used by the MS is relationship-based, forward-looking and long-term. It heavily relies on the relationship of local banks to solicit potential firms. Through this

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practice, MS substantially reduces transaction costs (time and labor) in screening the applicants, as the local banks already do the first screening. Then, MS applies its due diligence and assesses the financial requirement of the firm. This double checking system, in fact, reduces MS's moral hazard problem. It also reduces investors' moral hazard and increases their incentives to become a long-term partner of the investee firm. At the first stage, MS acts as a quasi-monitor of the firm, however, at a later stage local banks also perform the role of a quasi-monitor. This joint monitoring system, although informal in nature, further reduces moral hazards of the investors. Most importantly, local government also plays a supportive role in providing finance to the firm at a lower cost, if it promotes regional revitalization. This implies that the local banks, MS (as an additional financial intermediary), entrepreneurial firms, general investors, and governments work together to make a profit in the long-run. This system, in fact, reflects many characteristics of the previous "convoy system" and "main bank system" of Japan that greatly contributed to the country's growth during its "Hey Day" period. However, it is very difficult to reach a financial conclusion right now about the crowdfunding industry in Japan as the industry is still very young, and many funds are yet to mature. Nevertheless, firms that received funding supports through MS made a positive nominal return, which is of course much higher in a real term.

6. CONCLUSION AND POLICY REMARKS

Crowdfunding is a new phenomenon in market-based finance. It fills the gap of financing not cared by the microcredit institutions and commercial banks. The industry is still in its infant stage. However, it seems to be very effective for funding the small firms in the developed countries. It can also be used for financing young startups and incubation of new technologies. Importantly, crowdfunding does not replace angel investors and venture capitalists rather serves as a compliment to them. This new financial technology could be a powerful tool to cater to the financing needs of the small firms in developing countries, especially in Bangladesh that are systematically missed out from the attention of the traditional financial players. Bangladesh also exhibits potential for crowdfunding in terms of its GDP growth rates, flows of remittances, the size of the population and increased access to mobile and internet communications. Thus, with proper supports from the government and local banks, crowdfunding can play a work of wonder in Bangladesh. However, for the successful application of crowdfunding system, following notes should be kept in mind.

- "Trust" is one of the fundamental foundations of crowdfunding. However, trust cannot be built overnight. It is an abstract belief deeply rooted in the society. In Bangladesh, trust seems to be very fragile in nature because of higher chances of opportunism. By contrast, "transparency and accountability" may serve as a proxy for trust as they tend to reinforce each other and improve decision-making quality. Therefore, Bangladesh first needs to ensure transparency and accountability in the crowdfunding system to make the industry successful.
- Crowdfunding is largely an internet phenomenon that is not free from cyber-attack and other fraudulent activities such as money laundering and terrorism financing. Therefore, government and individual crowdfunding platform should take the initiative to check and prevent such threats and dishonest practices by formulating necessary laws and regulations.
- Crowdfunding is used for financing the small firms and technology incubators that tend to have higher mortality rates. Thus, investors may incur a capital loss in the

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absence of proper risk mitigating techniques. Thus, policy making institutions must institute proper risk mitigating techniques. One of the risk mitigating techniques could be to build an "investors protection fund" by taking a flat rate on the funds raised by the firms through CFPs.

- "Close relationship" is another foundation in crowdfunding system as it tends to reduce agency costs. Thus, investors, local banks, CFPs, and entrepreneurial firms need to be integrated for achieving a common goal. To this process, the government should serve as a facilitator by extending necessary formal and informal supports.
- Muslims constitute almost 90% of the population in Bangladesh. On religious rule, they pay "Zakat", a certain percentage of the income donated to the poor people, every year. A portion of this Zakat money can be used to form a "donation-based" or "equity-based" crowdfunding, as interest is prohibited under the Islamic Law. Islamic Banks in Bangladesh can take the pioneering role in this respect. Simultaneously, a lending based crowdfunding approach by interconnecting local banks can be adopted to provide finance to the small firms.
- Last, but not the least, credible crowdfunding ecosystem requires more than entrepreneurs and willing investors. Supportive factors include, *among other things*, forward thinking regulations, effective technological solutions, strong social media, and regulated online markets. Furthermore, accumulation of knowledge constantly being with the developed economies is indeed important to make the crowdfunding ecosystem more efficient and appropriate to country needs.

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