The Role of Social Capital and Cooperation Infrastructures Within Microfinance

Rethinking the Example of the Grameen Bank

Simon Plogmann, Muhammad Adeel, Bernhard Nett, and Volker Wulf

Abstract Microfinance has become a most important instrument for rural development. In regard of its technology, there are two main positions: a static analysis points out that ICT does not play a central role in many of today's microfinance activities and, therefore, will not do so in future, whereas technological determinism assumes the technological path of microfinance to follow the one of established banking in the North. In this paper, in which the well-known Bangladesh Grameen Bank is analyzed as an example, we want to show that both assumptions are wrong. Instead CSCW foci may play a productive role in developing appropriate technology for microfinance.

Introduction

During the last development decade, microfinance has become one of four major instruments of the United Nations to fight extreme poverty. At the same time, research started to address the growing impact of microfinance for the poor. Microfinance institutions (MFI) need to deal with a large number of clients, small-size loans, and periodical transactions. Therefore, information and communication technology (ICT) is seen as a potential to render MFI more effective. But even if there is some research into what effectiveness means for MFI (it is not perfectly clear as there are very different activities related to microfinance), there is little research into the role of the actual infrastructure MFIs use for effectiveness.

In the context of microfinance, Social Capital [2,19] is discussed as a means to reduce overhead costs for lenders of micro-credits [11,16] and an important factor

S. Plogmann (✉), M. Adeel, B. Nett, and V. Wulf
Institut für Wirtschaftsinformatik und Neue Medien, FB5, Hölderlinstrasse 3,
D-57068 Siegen, Germany
e-mail: simonplogmann@gmx.de; adeel.Muhammad@uni-siegen.de; bernhard.nett@uni-siegen.de; volker.wulf@uni-siegen.de

M. Lewkowicz et al. (eds.), *Proceedings of COOP 2010*, Computer Supported Cooperative Work, DOI 10.1007/978-1-84996-211-7_13,

for credit-takers to succeed [1]. It generally seems to play a large role in the context of microfinance. As not every technological advance must be a step forward in the fight against poverty, we regard it as extremely important to understand the existing relation between practices of microfinance organizations, the cooperation infrastructures they use and the Social Capital in the formal and informal economy of the poor.

CSCW has not yet looked deeply into the banking/finance sector. Some exception is the work of Richard Harper et al. [9], which has been related to banking in the North. But microfinance in the South demands for new ideas and research. Micro finance in the South is not as established as finance in the North. Some conceptions and practices of microfinance in the South involve community building and poverty reduction, issues, in which CSCW has quite some experience, but this has not yet led to research into the question what a CSCW-focus could contribute to the field of micro finance.

The following article will, therefore, deal with the concrete case of the well-known Grameen Bank (GB), in particular, the existing relation between practices and infrastructure. The results are based upon a related ethnographic study which has recently been conducted by Simon Plogmann, one of the authors, at several levels of GB. The ethnography unveils that the practices of GB can hardly overcome the limitations on flexibility, but are used a means through which the bank reduces its dependency upon the technological infrastructure and thus makes it possible to reach the poor in areas, where such infrastructure is poor.

The paper starts with some general perspectives on microfinance and technology. Afterwards, the empirical research design of the ethnography at GB is presented. A somewhat detailed description of the organization of GB in terms of hierarchical levels and product-based relations to the customers follows. Typical problems are described, and practices of GB to overcome them. It turns out that GB replaced large technology investments by social capital formation in its relation to the clients. The discussion attempts to reflect upon opportunities and problems of GB's unique relation between practices and technology, which lead to the final conclusions.

Microfinance and Technical Infrastructure

In the field of development politics, microcredit and microfinance are relatively new instruments (although the conceptions had historical antecessors, see [10]). As a development instrument, they first came to prominence in the 1970s (see: [15]). Before (this is: from the 1950s through to the 1970s) the provision of financial services by donors or governments was mainly given in the form of subsidized rural credit programs. These often resulted in high loan defaults and did not reach poor rural households [20].

According to Otero ([15], p. 8), microfinance is "the provision of financial services to low-income poor and very poor self-employed people". [12] observed that such

financial services generally include savings and credits, sometimes further financial services such as insurance and payment services. The existence of such services can reduce the dependency of extremely poor people, who often otherwise may have no alternatives to overcome crises than to suffer or become depend upon loan-sharks [7].

The majority of research on microfinance deals with its general financial functioning. In this context, Tamagaki [24] reports so-called "dual objectives of micro finance": a trade-off between sustainability and the outreach to the poor. He describes a low outreach to the poor as a result of sustainability: instead high administrative cost, low revenues and very high risks are attributed to broadened outreach. ICT is presented as the solution at stake. [18] when developing new, mobile-phone based microfinance architecture state that in "microfinance, where the cash value of individual transactions is very small, the only way to be profitable is to serve many clients efficiently. This is an important measure of efficiency in the industry". They emphasize the need to develop a technological infrastructure which is easy to use and allows serving more clients.

While such general demands for efficiency are rather easy to be made, it is a problem to identify changes, which are feasible under given conditions and appropriate technology. As the microfinance sector needs to grow in such places where the overall infrastructure is poor, the latter is somehow a problem and the solution, at the same time. This shows that it is an interesting research gap to look more detailed at the infrastructural side of microfinance.

However, to do so, one has to be aware that if there is a cultural and geographical distance between people in the anticipated field of application and the living environment of technical experts, the mutual understanding, even on what is infrastructure, can be a problem. For instance, the identification of banking with well-established and well-equipped services in rich countries can make it even difficult for ICT professionals to identify the services and infrastructures implemented in fully different societal contexts.

Furthermore, when reflecting about impacts of microfinance, one has to keep in mind that there generally is little related awareness among MFI. Their evaluation is often restricted to mere financial performance. Brochures and websites published by MFIs are often written in a sort of boulevard-journal style and only present achievements without describing the real practices at field level. [3] state: "The difficulty and cost inherent in assessing social impact are such that most MFIs do not try to assess social impact; nonetheless, donors and policymakers have a legitimate interest in assessing the social returns to their social investments. Some knowledge of social impact is therefore necessary for MFI management and other stakeholders (e.g., donors and policymakers) to assess overall program effectiveness. (Information on financial performance alone gives an incomplete picture of program performance)".

Quite some studies on microfinance, therefore, tackle the impact of microfinance upon the addressed strata, in particular, often gender issues. The Grameen Bank, for instance, has been studied in nine case studies, which study the impact of participation upon issues such as household income or family planning. The wide majority of these case studies are gender studies, whereas technology and Social Capital have not been the main foci of such studies [3].

Diniz et al. [6] noticed that ICT-based innovations allow banks to establish low-cost "electronic banking" media like internet banking and automated teller machines (ATMs), but that not all of these applications necessarily fit to the demand of microfinance in the South. While this shows lacking understanding among technical experts, similar problems do not have to be confined to them: MFI staff may, for instance, have problems to anticipate innovative infrastructures for their business without the help of mediators or examples. Technology adoption is strongly shaped and (also shaping) local markets: established technologies impact on social experience. Therefore, social, lingual and literacy standards have to be taken into account when analyzing technological situations [8,14].

The term "infrastructure" here describes available and used technologies and services, which strongly affect the possibilities which MFI have at their disposal. As already mentioned, studying the field of the socio-cultural factors may be influenced by certain perceptions. The reduction of "technology" to modern hard- and software is one example at stake. Instead it is important to study infrastructure in an unbiased way: e.g., the use of stones to mark properties makes the stones a part of the technological infrastructure, and may under certain circumstances make them a very appropriate one.

Infrastructure definitely is a big issue for MFIs in developing countries [17] concludes that "one of the biggest challenges facing microfinance service providers, particularly in rural areas of the developing world, is implementing a Management Information System (MIS) that can interface with a large number of clients across a region with unreliable physical infrastructure (communication, power, transport, etc.)". Instead of looking upon microfinance from the perspective of MFI service management, one can also look upon it from the bottom-up perspective of practices which allow operation under the given conditions of the existing "physical infrastructure".

A similar perspective has often been applied to economic cooperation using the concept of "articulation work", this is: the self-coordinating activities that make formal organizations work [21], which can be studied by ethnographic research when distinguishing between formal organization and informal practices [23]. This paper tries to apply related research upon the identified research gap: the interrelation of given and used infrastructure upon practices in MFI and Social Capital.

Therefore, the paper focuses on the mostly not yet computerized frontend activities. For this intent, the case study of GB will act as an example that is meant to help understand the existing role of technology in microfinance performance, and related demands on the development and implementation of supportive technology.

Research Methods

The basis of this article was an internship of Simon Plogmann, one author of this paper, at GB in Bangladesh. His internship allowed to study GB practices from "within" and to access the different members and locations. The internship started

at April 12, 2009 and ended 1 month later. It allowed some first views upon many organizational elements of GB. In structural terms, information was gathered at the head office, in zonal, area offices and branch offices, as well as in the associated centers of the latter. In geographical terms, the head office is located in Dhaka, the other studies were done in the Feni district.

Data was collected about the local situation by means of observation, participation at operations, and by interviews, mostly with GB staff and clients. Talking to the borrowers themselves and getting an impression of the structure and hierarchy that expands between the very personal work in the fields and the administrative work in Dhaka was a most important research experience. The local situation was documented on field notes and on a few hundred photos, as well. Further information was drawn from a literature analysis (micro finance literature, bank brochures etc.).

The close contact of Simon Plogmann to K.M. Tipu Sultan, a manager at Feni branch, has been very helpful. In particular, it allowed for ex-post interviews, which helped to clear the picture, whenever there were doubts or blind spots.

The Grameen Bank

The Formal Organization

Historical Development

Grameen Bank (GB) was established as a small project of the governmental banks on the initiative of Muhammad Yunus in 1976, 5 years after the independence of Bangladesh from Pakistan. In 1983, a special law was released, recognizing GB as a "specialized bank", still under the control of government. This special legislation made GB itself special. At that time, the government controlled 60% of the shares, while the borrowers held the other 40%. By now the borrowers hold 94% and their part is still increasing as it is compulsory for every new member to buy a share of the bank [25]. This is quite unusual among other MFIs too.

GB is usually referred to as a microcredit institution and, in fact, that is what it has always been. Only during the last years, the amount of savings has exceeded the amount of disbursed money. This change was probably caused by the change of GB's policy in 2002, when the government offered GB to discharge their activities from taxes under the condition that they would establish a so-called "rehabilitation fund" for natural disasters, and rise their own budget without accepting any foreign donor money any more.

At that point the bank introduced a variety of new saving products such as the Grameen Pension Fund and other Special Savings Accounts to ensure its liquidity would not get in danger. Studies have proven that MFIs that offer deposits to their customers are more shock resistant during times of financial crisis [13].

Clients

The law on GB describes it as a "specialized bank", related to its devotion to the poor. Ten criteria, known as the "ten indicators of poverty", have been defined by GB, and are employed to distinguish between those who are poor enough to join the bank and those who are not. They are also used to evaluate the process of poverty alleviation.

GB has some 18,000 employees, this is: around one employee per 426 customers. When giving loans, GB does not ask for any collateral. Nevertheless, GB's recovery rate is 98%. One reason for the bank's success is the so-called "group approach" and the very close relation between the bank and its customers (the related practices will be dealt with in the following chapters) [25]. Some more number: 97% of the borrowers at GB are women. Today, GB has more than 7,670,000 members; this is nearly 5% of Bangladesh's population. Some 20% of Bangladesh's households are related to GB in one way or another.

For any future members, there are strict criteria. First, candidates are not allowed to own more than a certain amount of square meters of land. This is the main criteria, apart from Indicators of Poverty. Second, all members have to be female. Male members can still be found, but only as relicts from older days, when criteria for acceptance were different. Third, only one woman per family can become a member of GB. No "blood relation" between members is allowed. Fourth, candidates have to come from the same area and need to have a similar level of education. At the best, they are of the same age. This is for the benefit of the borrowers themselves, as groups become more homogeneous and the ways shorter.

Data about a person that is stored is taken from the application form (including fathers name, mothers name, number of family members, their profession, etc.) and the national ID number. GB abandons contact data such as mobile phone numbers (Fig. 1).

Structure

Grameen consists of head, zonal, area and branch offices. The branch is usually responsible for around 60 centers. Centers are informal workplaces or offices where meetings take place. As their name says they form a sort of social centre, which is established and run by GB. Here is where branch employees meet with the clients – even before they become clients: As the clients generally are illiterate, they are taught what a contract is, and how they can sign one. Furthermore, the structure and policy of GB is explained to them such as a moral code for the members (Figs. 2 and 3).

Although a speaker for any group of borrowers is elected in the center, usually branch employees head the meetings in the centers discuss the matters and collect the money if necessary. The centers provide the service to the customers in their localities instead of traveling to the branch, which generally is further away from their homes. At the centers all borrowers gather once a week for 1 or 2 h to learn, discuss and pay back their installments. There are usually around seven groups, each with five to ten members, in a centre, this is, some 50 persons.

Fig. 1 Clients

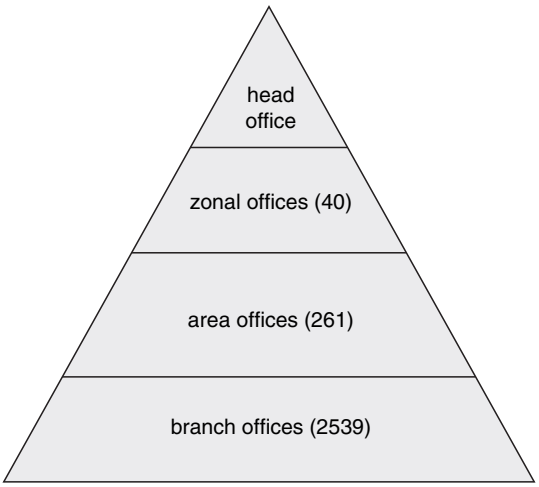

Fig. 2 GB Division

As mentioned, the branches are in steady contact with their centers. Therefore, a branch usually employs five to six employees including the branch manager. Each of them attends two meetings at the centers (often using a bicycle) every morning. This means that a branch generally is responsible for some hundreds of borrowers.

Fig. 3 Center near Dhaka

The area offices are the lowest computerized administration unit. An area office coordinates approximately ten branches and thus some thousands of loans. The area office employs six employees, of whom three are responsible for the transformation of the oral and written information that arrives from the branches into digital data. Usually every area office, and most of the zonal offices, too, rent services from GC.

GC sends three or four of its employees to every area office and supplies them with computers, printers and fax. The same happens with the zonal offices, even though they have less computerized work to do, you will find 2–3 GC employees in each of 27 out of 40 zonal offices. Aside of the 70 employees in the head office, there are 40 supervisors and 20 support engineers, who are stationed decentralized all over Bangladesh and come to action, whenever a problem occurs. It is also the area manager's task to have an eye on the liquidity of the branches and to judge over the proposals for some of the basic loans (Fig. 4).

The next step upwards in the hierarchy pyramid leads to the zonal offices. Again, they also have an eye on the liquidity of the area offices and forward information and money from the area offices to the head office, or the other way round. The staff working at the zonal offices is either collaborating with the administration division or with one of the three units of the head office (accounts, monitoring & evaluation, purchase & distribution).

On the top of this pyramid we find the head office with its 2,000 employees, located in Dhaka the capital of Bangladesh. The head quarter is located in a sky-scraper, the Grameen Tower. The skyscraper has also become home to many of the sister companies within the Grameen family that were formed around Grameen Bank during the last decades.

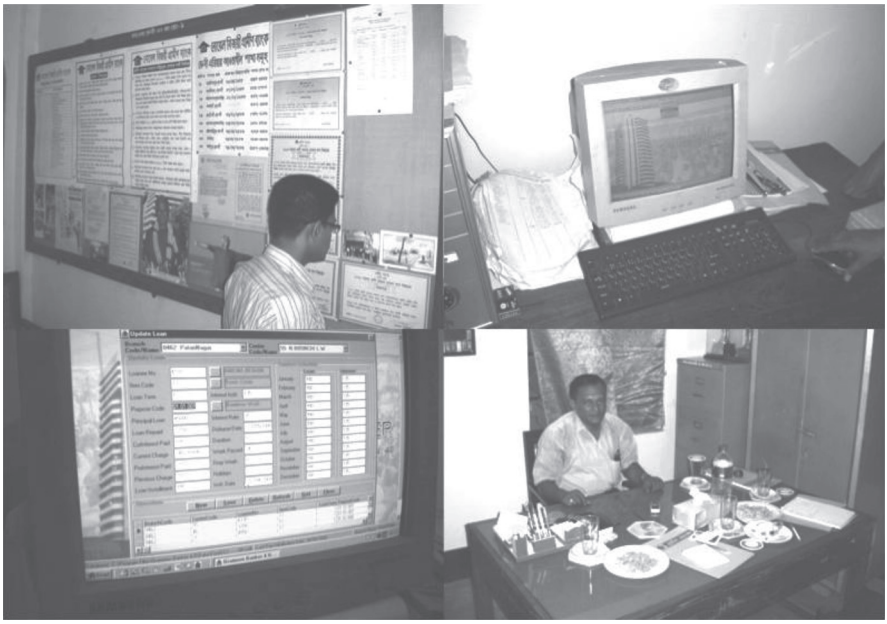

Fig. 4 Different views of area office

A lot of GB's influence results from the individual and sometimes very personal performance of the branch managers. A rating system on the level of the branches has been introduced, awarding individual performance by stars in five different colors. Thus the upper management creates additional motivation for the branch staff to commit with the idea of GB.

Products

Grameen offers only a limited range of products. In respect of an investment scheme one finds the Grameen pension fund and a 7-year-contract in the Grameen Saving account. However, the core products are the loans: there are, among others, the basic loan, which is Any amount, approved by branch and area offices, usually between 3,000 Tk (31.6) and 10,000Tk (105), can be disbursed to a borrower for her business. Interest rate for this common loan is 20% on declining rate (which is equivalent to 9.5% normal interest rate in general banking), not taking into consideration the loan insurance of 3% per insured person and inflation. Housing loans are usually disbursed to construct houses. This loan has to be repaid with interest as well. Another type of loan is micro-enterprise loan. This loan works like a basic loan but covers larger sums of money.

One special kind of loan is to uplift social community. This is known as "Educational Loan". This loan gives financial support to students. There are many

different types of educational loans. Some work with interest, some without and some need not be paid back at all. These products are designed in a highly standardized manner.

Standard Process of Crediting

Loans are usually disbursed at the branches. Therefore, a borrower has to annunciate her intention to take a loan at the centre meeting at least 1 week before, handing in a loan proposal that has been printed by the area office and must then be signed by the borrower himself and the branch manager. If the borrower gets the permission from the area or zonal office after satisfying the basic and further requirements (depending on the type of loan), she can come to the loan disbursement at the branch office, where the branch manager hands out the loan and makes a note in the borrower's book and in the books of the branch. Once a week this information is delivered on hard copy to the area offices.

The installments she starts paying in the following week are collected by each groups' chairwoman. During the centre meeting, the chairwoman hands the money over to the GB employee who is in charge of collecting the money. After the employee has visited two centre meetings, as he does every morning, he brings the money to the branch (Fig. 5).

A member who does not attend the centre meetings to pay back the installments in cash is not necessarily a defaulter as long as the amount can be taken from her savings account. After that, serious problems for the bank only occur if there are no special savings or pensions and insurances deposited by the borrower.

GB has developed two very sophisticated organizational strategies, which have become examples for other MFIs. First, the groups which meet in the centers create a social environment for the borrower that encourages her to comply with the rules she accepted, when becoming a member. A borrower's failure will have an effect on the other group members. This reduces the willingness to fall behind with repayments and, at the same time, makes sure that borrowers will help each other to comply with the bank's demands by lending small amounts of money from borrower to borrower or helping to find a solution for the business of somebody else. (While this is called "group approach", other MFIs rely on the so-called "family approach".)

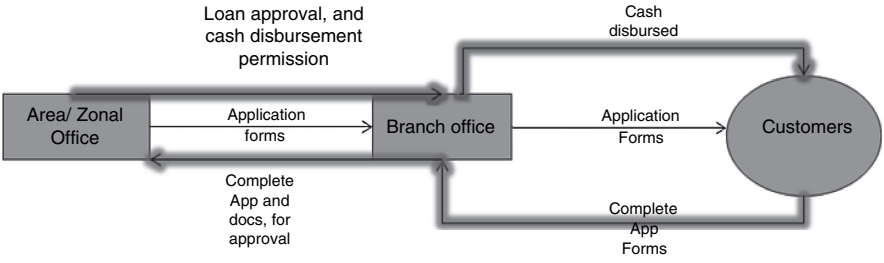

Fig. 5 Standard loan model

Second, the relationship between the operating branch manager and his borrowers is very close. As the bank claims to be "a bank that comes to the people" (and not the other way round, as it is usually the case), the regular meetings in the locally established centers, sometimes entail visits to families nearby. This creates a personal relationship between borrower and branch manager.

Whenever a borrower is impending to become a defaulter, the manager will, therefore, know about the situation of family and business. He is able to analyze what the problems are and tries to motivate and encourage the person and make some alternate business proposals, as he will feel responsible for that person. Additionally, it is a constructive routine with the aim to strengthen the borrower in her position follows.

In case of problems with a loan, first, the head of the centre, the elected representative among the borrowers, and two branch managers visit the defaulter at her home in order to motivate her and evaluate her situation. Although they are asked not to put any pressure on her, afterwards the area manager will visit, and the borrower will do all she can to avoid that embarrassing encounter.

Finally, as the last institutional step, the loan can be changed into a so-called flexible loan, meaning that the amount of weekly installments is decreased in agreement with the borrower without decreasing the total amount. The borrower does not lose her credibility within GB and can take a new, regular loan after she has paid back completely.

Practices Beyond Formal Organization

Media Used in GB

A huge amount of data has to be exchanged within Grameen Bank every day. As this can hardly be done without the help of computers, GB already relied on computerized work before 1995 [4]. Therefore, one finds a large variety of information and communication technology within GB. Already the lower levels of administration like the branches do not only use paper and other traditional means of communication, but mobile phones, as well. These mobiles are paid by GB up to a certain amount, depending on the status of the manager.

In 1997, GB launched a sister company, Grameen Communications (GC) in order to create technological solutions for GB. However, GC provides its services not only to GB, but also to other national microcredit institutions and international organizations (mainly located in other Asian countries). GC helped to computerize the higher units (starting from the area offices), which now use means of communication such as Fax and emails. Memory sticks and mobile phones are very common. We shall present some related practices later.

Together with the Kyushu University in Japan and the Swedish International Development Cooperation Agency, GC is already planning future projects such as the "electronic borrowers' passbook", the "village computer and internet program"

or the "classmate pc", a device to facilitate GB's centre manager to collect and access information from borrowers. Some software has even been exported as a product. This export business is run by Grameen Solutions, another sister company. GC has developed the fifth version of the "Grameen Banker" and "Grameen Accounts", backbone software of GB and still under in use in the bank.

The Grameen organizations and their international relations are becoming more complex. In contrast to their dynamic performance, GB itself operates relatively smoothly. This is in line with GB's policy not to experiment with the money of the borrowers.

Drawing upon Existing Services

Not every branch always has a balanced in- and outflow of money. One finds loss-making branches, as well as branches with a surplus. Whenever a branch is facing low liquidity, a branch manager consults the area manager and asks for surplus from other branches. This happens very informally by mobile phone or text message. Area managers can give permissions to branch managers to send money to the "deficit" branch.

Transactions are documented on papers that will be stored in both branches and the area centre. Larger transactions (>100,000 Tk) are made with the help of private banks. Indeed every branch manager runs an account at the closest private bank that can be found in the surroundings of his branch. From this short-time account (only 3.5% interest) he manages most transactions.

Smaller transactions (<100,000 Tk) can also be handled by messengers who transport the money from one branch to another. It can also happen that surplus money of a branch is sent to the area office, then forwarded to the zonal office and then to the head office. But, while the branches can exchange their money directly between each other with permission of the area manager, the area offices have no permission to do so. The area is expected never to be in illiquid. If so, every transaction has to be done via the accounts unit of the zonal office.

The head office, after receiving money from the lower administration units, stores it in many different bank accounts, spread over more than 20 banks. GB emphasizes that they do not invest at any stock market. They do not want to "play with their customers' money", as they say (Fig. 6).

Locally Dealing with the Local

On the area level there is a strict accounting and a resource exchange in cases of problems. Here the maintenance of the average performance is controlled in a very strict way. The area is connected to the overall informational system of the bank. The area level is used to guarantee the bank's performance. On the branch level instead, GB abstains from full equilibrium and automatic control of payments. The branch employees who visit the groups at the local centers do not only know the

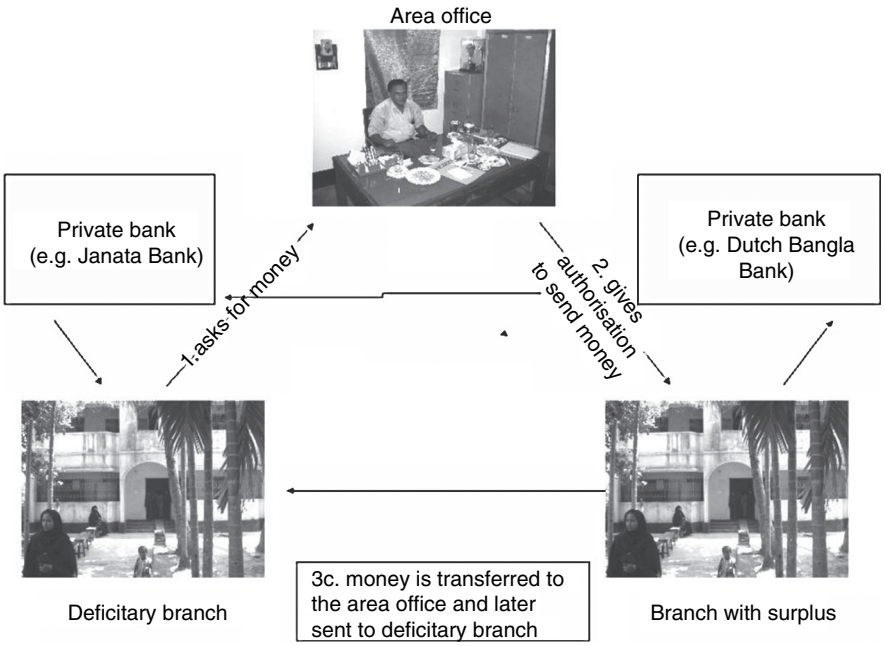

Fig. 6 Flow of funds, information at local level

local situation in most detail, they also have personal relations to the clients. Therefore, the assessment of the local situation is based upon them, such as the first reaction to crises. Only in case of remaining problems, higher levels of the organizational hierarchy are involved in the management of the individual cases.

This shows that GB combines two different infrastructural integration forms: the branches work on face-to-face basis with paper prints, whereas the area is the interface to an electronic data processing. Under the given situation, GB could neither operate without the ICT-based core nor without the paper-based periphery.

Accounting Practices on the Local Level

On the branch level, printouts are used for account statements which were produced on the area level before, that is: independent from the actual payments – which nevertheless are documented on them. The clients thus receive account statements, which are out-of-date already when been delivered, if there are no payments. Therefore, they are only handed out as is to the customers, if they pay the anticipated sum. In this case, theoretical and actual values of the account are identical.

If the customer does not pay, the branch officer will apply emergency practices. One is to communicate the non-performance of the loan to the area managers who have to correct the information system of the bank. Such information generally takes place by means of mobile phone (Fig. 7).

Fig. 7 Branch level, dealing and working

This is to say that the bank distributes account statements with hypothetical payments of the customers: at the time, when the branch officer brings these account statements to the centers, they only display the expected values of the accounts, not the actual ones. However, when the branch employee hands them out, he secures that statements are of the actual value. In the normal case, this is only done by getting the calculated money from the customer and giving the statement in reverse. Only in case of problems, the accounts are changed by annotations, which are reported straight to the area management (Figs. 8 and 9).

This practice allows GB to print account statements in advance and, therefore, independently from factual payments. The "simultaneity" between payments and the account is only secured ex-post by the branch employee at the group meeting in the center. Therefore, the account statements can be printed and distributed top-down like newspapers and do not need an electronic upward feed of information. The employees of the branch offices thus are the interface of an integrated data system (reaching down to the area level) and the clients. Nevertheless, the system would come into trouble if the rate of the non-performing loan would increase, as this could lead to an information bottleneck.

Innovation Attempts

At its start, GC launched some pilot projects in GB trying to computerize the branch level of the bank. However, they had to realize that it did not make sense to computerize the bank at the branch level for several reasons like: branches are very

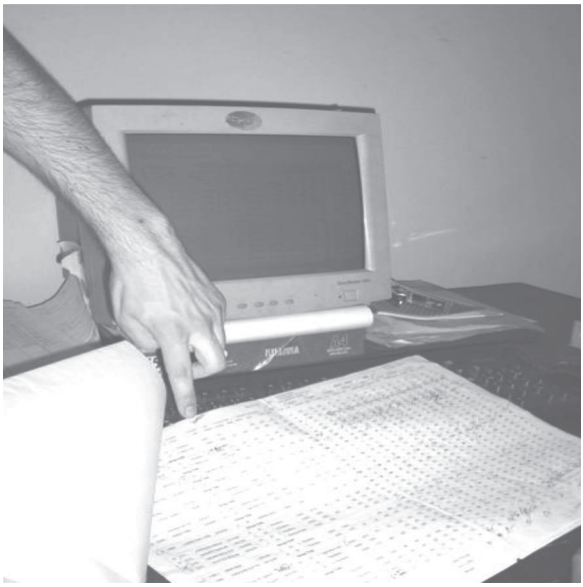

Fig. 8 Monthly computerized Statements

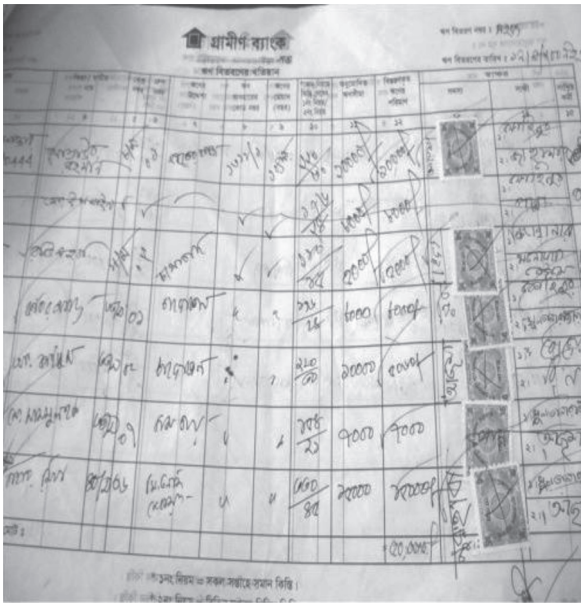

Fig. 9 Local cash received and payment record

small units, and there are a lot of them, especially in rural areas, branches are facing frequent electricity shortages, scarcity of local computer skills would demand the cost-intensive hiring of external experts for each branch. Costs for trouble shooting, electricity supply and matters of education were reasons for the computerization process to stop one step higher at the areas. The local level was considered to be problematic by GC (and GB as its customer), otherwise they would not have launched their pilot projects. However, the local level turned out to be less problematic the anticipated ICT solution.

Other claims for innovation came from demands of more customization of loans by groups that cannot comply with the repayment schedules offered by GB. As only very few borrowers have a regular income, expecting them to pay back in regular installments is not in line with their possibilities. In the best case, members overcome the hindrance with the help of other group members and lend each other very small amounts of money to adhere with the strict repayment schedules. While this practice turns every single borrower into a sort of one-person microfinance institution, it does not succeed, if all borrowers run short of resources, at the same time, for instance, farmers before the harvest. Farmers who take a loan to buy the seeds for the field and get in harvest two or three times a year need a shorter repayment period than 1 year and will not be able to pay installments during the month when plants are still growing on the fields. In such cases, borrowers even have to take loans at other MFIs to be able to pay back their loans at GB. GB reacts with limited differentiation of its standard products, but sticks to as much standardization, as possible.

Discussion

GB is an exceptional case due to its conception and self-image as a bank for the poor, which allowed the organization to see the clients as stakeholders of a common movement instead of alien forces to be centrally controlled. Attempts are made to combine credit-giving with education, mobilization and empowerment. Many other MFI do not share this orientation of GB, and could not exploit the related reduction of costs. Only to give one example: MFIs in Pakistan are much more stressed by their efforts to clear anomalies at the branch level, as their ties to the clients are only financially.

GB has developed its process model according to general social, economical and political values. GB has adopted community norms and values, and made them decisive for its organization. When Daniel et al. [5] state that Social Capital is “developed and fostered when individuals believe that their actions will be appropriately reciprocated, and that each member of a community will meet expected obligations and abide the available social norms”, the GB groups experience the values incorporated in the mutual care of their participants for each other. So, one reason for GB’s high rate of repayment is the Social Capital that it represents.

Some MFI try to copy this strategy to reduce information demands and support the payback rate, but do not focus as much as GB on supporting the establishment of trust between clients and bank staff. Community and institution building are both seen by GB as part of the empowerment of the poor, who otherwise remained in the informal sector in total [26]. For instance, only under the auspices of trained personal, the loans can be used by the clients in a so profitable manner, that repayment of loans becomes generally possible. This means that the time-intense contact of the branch employees with the borrowers may not only be seen as a little efficient way of organizing installments, but is a form of coaching, too.

For GB on the other hand, to organize the process according to the assumption that the borrowers perform well, allows for a lot easier handling of information. This way, there is no need for any bottom-up communication in the case of the standard customer. Only a one-way communication channel is needed for most of the transactions. The information upwards is given by the branch officer, and he can concentrate upon those clients who do not perform as expected. The branch officer adjusts the values of the accounts. The demanded trust is secured in GB through Social Capital and mutual dependencies.

By the distinction between standard customers (=> nearly no need of information exchange) and exceptional customers (=> high demand on information flows), it became possible to organize the core of the bank in a computerized way, but to organize the area as the interface to the non-computerized branch and center levels. As the upper management does not deal with problem borrowers or react upon them by developing modi operandi, it is also less important for them to be supplied with up-to-date information and actual values. Though the area level is remote from the operating branch or centre level, little problems occur.

Dealing with local problems locally, therefore, reduces the costs of transactions and data collecting at the same time. And using the areas as interfaces between two differently mediated sectors of the bank represents organizational intelligence, which is used by GB to avoid the necessity of too large investments in ICT. Trust based upon Social Capital allowed for the insight that it is enough to know about the performance of the clients' accounts only with some time lag, if some financial reserves and smooth operation are maintained.

As the factual status of the accounts is not needed in time, the bank can use the regular meetings with the clients to confront them with the expected state of their accounts, which can be printed out using a central computer with account data: only in case of problems, alterations have to be made. The default case for GB thus is a well-performing client. Therefore, one may say that GB substituted Social-Capital generation of the branch employees for infrastructural capital. What is the economic rationality of this infrastructural strategy? It is the avoidance of large infrastructural investments and the application of a labor-intensive strategy.

In technological terms, GB makes interactive use of paper, when using printouts, which can, at the same time, be read, annotated and corrected by hand. GB has generated an efficient mixture of paper and ICT, which enables it to reduce the investment on heavy infrastructure. At the same time, the account statements function as a boundary object [22]: the bank behaves within the established rules by

using media, which are explained to the clients. This allows the clients to control the bank operation, and gives them a feeling of be a part of it.

On the other hand, if all communication and cooperation within the bank would only rely on labor-intensive, technologically un-mediated face-to-face communication, no accounting would be possible for the bank. Therefore, GB has to integrate paper-based and ICT-based work. In order to reduce related efforts, the other part of GB's technological strategy is the extreme standardization of products. Both elements (social capital of the field officers built upon ongoing intense communication and a most reduced central control of most standardized products) have been implemented by the invention of an accounting process, which abstained from full actuality of central control of the state of the borrower's accounts.

Standardization of the products generally is a typical mass production strategy. In the case of GB, it has not only been adopted to benefit from economies of scale, but due to the fact that technological alternative were not at hand, when the bank was established. The poor electrical and communication infrastructure given, any other strategy would have demanded for very large investments, which were not at hand.

However, the standardization of products, which allowed for the very establishment of GB's existence, is not without problems for further development. It seems to be for that reason that GB only offers four different types of loans and is not willing to accept any major changes according to the conditions of disbursement and repayment. Apart from the total amount, changes in duration, repayment method and interest can hardly be achieved. So branch employees have no large space for maneuver to negotiate with customers to individualize the loans.

One can understand the insisting on regular repayments as a sort of conditioning of the borrowers, which thus learn to accumulate a reserve in good times in order to have it for bad ones. However, some borrowers are that poor that they cannot afford to accumulate a necessary reserve: thus the demanded regularity of paybacks is a problem for them, and the material offers of GB for them (talking with them and offering them flexible loans) is only an exceptional alternative to the normal, fully inflexible regular loans.

The use of Social Capital, which is based upon members of the bank becoming part of the self-organization of its clients, is restricted by the standardization, which limits the opportunities at hand for the self-organization of the groups. However, under the limitations given, standardization is up to now the only way to deal with lacking physical infrastructure in rural areas. The example of GC attempting to computerize the branch level shows that GB is aware of the technological dualism within the organization, tried to delimitate it, but failed. However, the same business model (standardization) that enabled operation for GB may become a problem in the future, and for special types of borrowers.

The branch level of operation for the bank is organized in the form of visits of the branch employees to meetings of the borrowers, mostly women. They thus regularly bring them the new statements of their accounts, calculated by a computer on the area level under the assumption of orderly payback of the loans. In case of non-performing loans, these numbers, therefore, are wrong.

In this case, the field officer discusses future opportunities with the borrower, and corrects the wrong account statement by hand, immediately informing the area manager about the changed situation. Thus the need of feedback from the local to more central levels is reduced to the max. Furthermore, the branch manager may handle the case in "political" terms, this is: he can draw upon his situational knowledge when looking for solutions. On the other hand, the area managers are very restricted to a financial perspective.

If GB, when establishing new fields of operation, wants to benefit from its main assets, it has to involve, at least, the branch officers into related development processes. This would require an application of participatory design. Furthermore, it has to be kept in mind that there is no save electrical and informational infrastructure in the countryside in Bangladesh. In this context, the widespread use and functioning of mobile phones is an important aspect which could be used for future developments.

However, any technological strategy for GB as a microfinance institution has to keep in mind that the infrastructure of the bank has been implemented as an embodiment of organizational intelligence. GB's intense awareness of the borrowers' situation and the mutual trust and respect among GB field officers and the borrowers is one of its main assets, which to a large degree rests upon the transparency of the standardized products and the way how they are managed.

However, for instance, for the poorest and the most successful borrowers, the strict standardization of products, which forms the original basis of operation, may also become problem. As for the majority of borrowers this should not be the case, GB would surely prefer a diversification of its organizations according to business models to a shift of the original business model. The increasing number of daughter enterprises speaks for this assumption. Even if GB wanted, its infrastructure would hardly be changeable in technological terms without massive investments.

Conclusion

Access to financial services such as savings, loans, payment transactions and insurances may help poor people to make independent and lasting improvements to their living conditions. GB has developed financial service to the poor at a time when otherwise there was little interest into this issue worldwide. GB has reached the poor, because it has combined the provision of financial services with other services such as education and coaching. Activities that seem to be peripheral for many Northern banking experts thus have played a core role in the GB case. The result is even the more impressive, as the majority of borrowers consists of poor women, the most affected and peripheral strata of the Bangladesh society.

Within GB a lot of activities are performed in a synergic manner, integrated through the charismatic leading figure of Yunus. Strong differences exist among different MFIs: a solution that fits for one organization must not fit for another one. Even more: what makes one MFI more efficient may destroy sustainability for another one. The field of microfinance must neither be seen as a sort of banking like

in the North – only more simple, nor as a domain of its own, the logic of which is already known.

On the contrary: what "microfinance ICTs" are, is in no way already clear, at that moment. Therefore, related product finding could benefit from the experiences of CSCW in participatory design, even the more, as Social Capital formation, trust, and learning issues play a central role. Success stories are of great importance.

It is striking that there is that little awareness of MFIs about their social impact. That may become a domain of certain "microfinance ICTs" of its own. Furthermore, the need to teach the mostly illiterate clients how to interact with a MFI could lead to the use of new media. As infrastructures of rural areas are changing, for example, through the availability of mobile phones, there is a lot of potential to analyze microfinance under a design-oriented CSCW focus.

References

1. Ajani, O.I.Y., Tijani, G.A.: The Role of Social Capital in Access to Micro Credit in Ekiti State, Nigeria. In: Pakistan Journal of Social Science, 6 (3), (2009) 125–132
2. Bourdieu, P.: Le capital social. Actes de la Recherche en Sciences Sociales 31 (1980), 2–3
3. Brau, J.C., Woller, G.M.: Microfinance: A Comprehensive Review of the Existing Literature. In: Journal of Entrepreneurial Finance and Business Ventures, Vol. 9, Issue 1 (2004) 1–26
4. Counts, A.: Small loans, big dreams. Wiley, Hoboken, NJ (2008) p. 255
5. Daniel, B., Schwier, R.A., & McCalla, G.: Social capital in virtual learning communities and distributed communities of practice. Canadian Journal of Learning and Technology (2003) 29(3)
6. Diniz, E.H., Pozzebon, M., Jayo, M.: The Role of ICT in Improving Microcredit: The Case of Correspondent Banking in Brazil (2008)
7. Friedman, J.: Empowerment. The Politics of Alternative Development, Blackwell, Oxford (1992)
8. De Angeli, A., Athavankar, U., Joshi, A., Coventry, L., Johnson, G.: Introducing ATMs in India: A contextual inquiry, Interacting with Computers, Special Issue Global Human-Computer Systems (2003)
9. Harper, R., Randall, D., Rouncefield, M.: Organizational Change and retail finance. Routledge International Studies in Money and Banking, London, UK (2000)
10. Hollis, A., Sweetman, A.: Microcredit – What can we learn from the past? World Development 26 (1998) 1875–1891
11. Karlan, D.S.: Social Capital and Group Banking. In: Economic Journal, Vol. 117, No. 517, February (2007), pp. F52–F84
12. Ledgerwood, J.: Microfinance Handbook: An Institutional and Financial Perspective. World Bank. Washington, DC (1999)
13. Littlefield, E., Kneiding, C.: The global financial crisis and its impact on microfinance. CGAP, Washington, DC (February 2009)
14. Medhi, I., Gautama, S. N. N., Toyama, K.: A Comparison of Mobile Money-Transfer UIs for Non-Literate and Semi-Literate Users. CHI 2009, (April 8th 2009) Boston, MA, USA
15. Otero, M.: Bringing Development back into Microfinance, paper based on a talk at the conference, "New Development Finance," held at the Goethe University in Frankfurt, September 1999 (1999) URL: http://www.accion.org/Document.Doc?id=64 (accessed 15.10.09)
16. Olomola, A.S.: Social Capital, Microfinance Group Performance and Poverty Implication in Nigeria, CSAE 2002 (2002), URL: (downloaded 08/08/09) http://www.csae.ox.ac.uk/conferences/2002-UPaGiSSA/papers/Olomola-csae2002.pdf

17. Parikh, T.S.: Rural microfinance service delivery: Gaps, inefficiencies and emerging solutions. ICTD 2006, abstract, (2006), URL: (accessed 10-10-2009) http://www.ischool.berkeley.edu/ictd2006/abstracts.html#CameraReady_152
18. Parikh, T., Javid, P., Sasikumar K., Ghosh, K.: Mobile Phones and Paper Documents: Evaluating A New Approach for Capturing Microfinance Data in Rural India. Proceedings of the SIGCHI 2006 Conference on Human Factors in computing systems, ACM, NY (2006), pp. 551–560
19. Putnam, R.D.: Making democracy work. Civic traditions in modern Italy. Princeton, NJ, Princeton University Press 1993
20. Robinson, M.: The Microfinance Revolution, Sustainable Finance for the Poor, World Bank, Washington, DC (2001)
21. Schmidt, K., Bannon, L.: Taking CSCW Seriously: Supporting Articulation Work. In Computer Supported Cooperative Work (CSCW): An international Journal 1 (1992) 7–40
22. Star, S.L.; Griesemer, J.R. (1989): Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology. In: Social Studies of Science, 19, pp. 387–420
23. Stevens, G., Nett, B.: Business Ethnography as a research method to support evolutionary design, in: Habscheid, S., Nett, B. (eds.): Schnitte durch das Hier und Jetzt, Qualitative Methoden medienwissenschaftlicher Gegenwartsforschung, Zeitschrift Navigationen, 2/2009, Schüren, Marburg (2009)
24. Tamagaki, K.: Effectiveness of ICTs on the Dual Objectives of Microfinance (2006) URL: www.waseda.jp/assoc-cioacademy/pdf/tamagaki.pdf
25. Yunus, M.; Khan, A. Hai; Wahab, Md. A.: Grameen Bank at a Glance, December 2008, in: Grameen Bank, Banking for the Poor, (2008), URL: (accessed 22.12.2008) http://www.grameen-info.org/index.php?option=com_content&task=view&id=26&Itemid=175
26. van Bastelaer, T.: "Imperfect Information, Social Capital and the Poor's Access to Credit." Working Paper No. 234. Center for Institutional Reform and the Informal Sector (IRIS), University of Maryland, College Park (2000)