Innovating the Field Level of Microfinance
A Pakistan Case Study

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Abstract--Microfinance Institutions (MFI) are sought to combine transparent sustainability with poverty reduction. Apart from this commonality, they can be as different as their markets, cultures and technologies. While much design for MFIs, nevertheless, concentrates on standardized processes around the head quarters we started with studying an individual case from a bottom-up perspective, including its customer relationship. We focused our ethnographic study at the Khushhali Bank, Pakistan, on work practices and how they are influenced by technology. In our case, too, lacking awareness about non-monetary performance is a hurdle for sound innovation. Technological innovation can be attractive when it is combined with measures to support community building and learning.

Index terms-- Ethnography, Innovation, Microfinance, Participatory design, Sustainability, Tailorablity, Work practices

I. Introduction

Microfinance has become one of four major instruments of the United Nations to fight extreme poverty. Microfinance is a relatively new instrument in development politics, which did not become prominent before the 1970s [29]. The time before was characterized by "big-push"-arguments pointing at the under-capitalization of poor countries in macro-economic terms [34][23]. In terms of poverty reduction it was assumed (but only later overtly expressed) that surplus generated in development poles would by itself "trickle-down" to the poor in one way or another.

Since the 1970s, the emergence of microfinance has contributed a focus on small-scale financial services to the former bias on large-scale borrowers. Today, microfinance institutions (MFIs) operate in environments which differ considerably from other, more established forms of banking in terms of markets, products, technologies and customer cultures.

Information and communication technology (ICT) is seen as a major possibility for innovations in microfinance. Nevertheless, there is little empirical research into the role of the actual infrastructures that MFI use. Instead, technological innovation seems to imitate more established banking forms. However, ignoring the "last mile" of microfinance is to miss a major innovation potential in microfinance.

The following paper deals with the Khushhali Bank in Pakistan and focuses on the existing relation between work practices and the given infrastructure. The results are based upon an ethnographic study which has recently been conducted by one of the authors, a native citizen of Pakistan. This ethnographic study is meant to become a first step for a further collaboration in which technological opportunities are to be discussed with the Khushhali Bank, and related technology-implementation and -maintenance conceptions to be developed and tested.

The paper starts with a general perspective on microfinance, technology and development. Afterwards, the description of the empirical research design of the study and the organization of the Khushhali Bank will be presented. In the following, work practices within the operation of Khushhali Bank are lined out to show that obviously the factual situation at the field level of the Khushhali Bank is very different from the situation in the bank headquarters. Opportunities and problems focusing on the relation between practices and technology lead to our final conclusions.

II. Microfinance and Poverty Reduction

As pointed out before, development projects in the early years were large-scale activities, and often industry-oriented. Research on subsidized credit programs for rural areas showed that they resulted in high loan defaults and did not reach poor rural households [33]. The large-scale and urban bias became criticized, e.g. in the context of the "basic needs" approach to development [25]. This turn towards the poor was inspiring for turning small-scale-loan programs (first experiments of which had been tested before) into MFI for rural development.

As a result, microfinance was detected as a means for "the provision of financial services to low-income poor and very poor self-employed people" [29]. As such, microfinance is more than just giving small loans to poor people. In financial terms, services generally also include savings and sometimes further financial services such as insurance and payment services [22]. Furthermore, microfinance may include educational and empowering programs. Maldanado (2005) studied educational effects that microfinance programs and urged for incentives to be offered to clients to keep their children in school [4]. Gonzalez-Vega et al (2002) also highlighted the impact of education programs provided by microfinance firms on business performance and overall education levels of clients [26].

The existence of financial services may reduce the dependency of extremely poor people but does not guarantee productive investments: in particular for the poorest, overcoming individual or household crises like diseases, accidents, legal problems of children or similar unexpected events is described as overriding investment uses of credits [13]. However, even used as consumptive crisis-defense, microfinance may contribute to poverty reduction if the poor otherwise have no alternatives than to suffer or become dependent upon loan-sharks.

Having said this, one has to add that on the other hand unproductive microcredit use may even increase individual dependency and poverty. Bennholdt-Thomsen & Mies (2000) argue that the integration of the poor into the monetary system (the aim of microfinance activities) may endanger subsistence opportunities and thus must not necessarily cause positive results. Nevertheless, the impact of microfinance upon poverty reduction (and possibilities for improvement) depends on the concrete case.

Another strand of literature on microfinance apart from the mentioned literature on developmental issues has emerged on technical support for MFIs. Parikh (2009) states 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.)” [30]. “In microfinance, where the cash value of individual transactions is very small, the only way to be profitable is to serve many clients efficiently [30].

Tagamaki (2006) concludes so-called “dual objectives of microfinance”: a trade-off between sustainability and outreach to the poor [39]. He describes low outreach to the poor as a result of sustainability-oriented strategies. Instead high administrative cost, low revenues and very high risks are attributed to outreach-oriented strategies. To overcome the mentioned trade-off, technological innovation is seen as the needed strategy, and ICT is presented as the solution at stake. Dahl quoted ICT as a key to possible development advancement in developing countries [6]. Such views are convincing, but very abstract. As for most MFI, self-evaluation is reduced to pure cost control (see below), it is everything but easy to identify innovation opportunities within its own operation which could operationalize the general views.

In contrast, Arai et al. (2010) point at concrete technologies when stating that using meeting assistance to keep meeting records and meeting minutes in a digital form will help in making further decisions [2]. The vital role of mobile phones in microfinance as an enabler for the development of social and business networks, the management of supply chains, close contact with buyers and the integration of basic financial activities through informal MIS integration Is also described in the literature [9] [19] [10].

Barton et al. favor ”client-focused MFI technology developments” because of its double advantages, i.e. the productivity in finding effective and sustainable solutions for institutions and gradual solutions for the clients. Such an orientation may help detect socio-cultural factors influencing infrastructure use in different ways. For instance, poor education (resulting in illiteracy) may limit infrastructural potentials, but traditions may also allow work-arounds which by-pass bottlenecks that the technical infrastructure otherwise would cause [32].

It has also been argued that ICT-based social networks have the potential to undermine the so-called status-based social network and thus established opportunities to those people who were marginalized before and received fewer opportunities [1] [9] [35] [12] [18]. In any way, analyses of microfinance infrastructures should not be conducted without taking into account the socio-cultural situation, which, therefore, needs to be studied empirically.

Although fixed line phone-based communication was a well-established practice, it has become replaced by mobile-based communication in many fields, especially in microfinance. “Mobility” which is an important and main characteristic of mobile phone is a very important factor in microfinance, too. Many researcher argued that land lines generally connect places while mobile phones would connect people personally, regardless of their place, situation, time etc., and that this factor would help them to share knowledge, market intelligence, and social network expansion [19] [9] [18] [24].

On the other hand the identification of banking with well-established and well-equipped services in rich countries is described as a problem for ICT professionals to understand the services and infrastructures implemented in fully different societal contexts [8]. Only on the basis of a case-based analysis bottlenecks and negative impacts of poor infrastructure may be detected, changes of which could be feasible under the given conditions. The same is true for appropriate technology- and implementation conceptions.

The establishment of microfinance has to be seen as a learning process, in which neither financial sustainability nor poverty reduction are unproblematic, but need to be combined in challenging environments. Both the MFI and the clients need learning by doing. To evaluate microfinance, the process, problems and results of learning have to be studied in the case at stake. Social, lingual and literacy factors have to be taken into account when analyzing technological situations of microfinance institutions [7]. Furthermore, community building, education and social mobilization are described as important side effects of microfinance activities – which in turn may strongly affect financial effectiveness. There is vast amount of evidence substantiating a beneficial affect on increases in income recorded by various researches and reductions in vulnerability in some studies [15] [40] [20] [21] [41]. Though there are, however, fewer studies with evidence of impact of microfinance on health, nutritional status and primary schooling attendance etc, but the "existing evidence is largely conclusive and positive", told Graham Wright [15].

However, many MFI do only deal with performance in very general, monetary terms. While socio-culture impacts on microfinance activities may play enormous and important role for their finance performance, most MFIs do not study them systematically. Brau and Woller (2004) state that “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)” [5].

Concluding the findings of the literature review, sustainability and poverty-reduction are described as potentially conflicting (see above). Consequently, it is a challenge to make them synergic. In order to understand what is necessary for this aim in a given case, one has to take into account socio-cultural factors and impacts. To make them visible and to raise awareness of the multi-perspectivity related to the operation of a MFI [11] may help organizations to adapt themselves to their challenging environments.

Instead of looking upon microfinance only from the perspective of MFI management, one needs to also look from the bottom-up perspective of the practices of actors, which allow operation under the given conditions of the existing 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 [22] which can be studied by ethnographic research when distinguishing between formal organization and informal work practices [37].

However, when studying the multi-perspectivity at stake, both foci need to be taken into account. Informal interaction in organizations like MFIs plays an important role and needs to be taken into account when designing technology for this domain [38]. Related studies are not only helpful to find diverging interest, but also to unveil existing experiences and ideas within the organizations, which may contribute, to constructive innovation.

III. RESEARCH METHOD

Following the above-mentioned perspective, we wanted to find the formal organization of the Khushhali Bank, articulation work of the staff and practices of staff and clients in general. In order to do so, one of the authors spent six weeks in Pakistan to study microfinance practices in different regions by means of ethnographic methods. Being native to the target culture and language, this author used different opportunities to investigate articulation work within the MFI and interaction practices between the MFI and the customers. The related insights were to identify technology use in the MFI and opportunities for technological innovation.

To collect empirical data, about 27 semi-formal and informal interviews, discussions, 8-10 hours of observations and participation at work were conducted with personnel of the Khushhali Bank of different hierarchal levels in Rawalpindi, Islamabad, Rawat, Pirwadai, Attock, Hassanabdal, Taxila and at head office in Islamabad. Additionally, two interviews were conducted with managers of the First Micro-Finance Bank Limited and one with the Pakistan Micro-Finance Network. Observations, participation work and informal discussion help a lot to find out the articulation work practices at organization.

Further data was collected through the observation of a focus group of clients. Clients were observed and interviewed during a monthly meeting and field officer's visits. Different 20- to 30- minute long informal discussions with clients helped a lot in understanding their situation. Initially, it was observed that clients were shy, scared or dominated by the presence of a field officer during discussions. As a consequence, separate interviews and discussions were conducted with clients which unveiled additional information.

Furthermore, field officers were interviewed inside the bank and during their visits to the village areas to avoid a possible bias. Data was documented on field notes, ten hours of audio recordings, and in 70 pictures. Moreover, annual reports of Khushhali Bank, quarterly reviews on microfinance business by Pakistan Microfinance Network, Reports of State Bank of Pakistan and Asian development bank were also considered.

Later on, after completing the full picture of organization and its articulation work, Strauss' and Corbin's Grounded Theory (1998) was used to analyze the situation and related collected data. After each step, the data, both field notes as well as interview data, were inspected. Data was coded during a process in several steps. At first, we composed categories based on the findings in the collected data. Then these categories were related to each other and evolved during the further research. These categories were analyzed under the presented articulation-work perspective. We attempted to differentiate between formal working of organization and the factual work practices we had observed and informed during data collection. Audio conferences and exchange of emails helped clarify the data and to draw results.

Then we tried to identify the actual role, problems and opportunities of microfinance and to reconstruct related interests on the basis of a careful examination of our data. The ethnography was to point out problems and potentials that could be tackled by means of technology development. The results of our analyses will also be presented to the Khushhali Bank.

IV. THE KHUSHHALI BANK IN PAKISTAN

A. *The social situation in Pakistan*

In Pakistan, more than 23% of the population is living below the poverty line. It is estimated that of more than 6.5 million poor people who could benefit from microfinance services, only about 5% are being served by MFI.

Initially, microfinance institutions in Pakistan were NGOs such as the Agha Khan Foundation which operated in the Northern areas. After 1970s, dedicated MFIs came into existence in many parts of the world. These institutions have very heterogeneous forms, strategies and target customers.

According to the 2005 survey and the price index, in Pakistan poor people have a per-capita monthly income below 10 USD. The survey reveals that after 1990, the percentage of people below the poverty line has sharply mounted. A monthly poverty line is defined by not having access to the necessary food and non-food products typically required in daily life. Those, whose monthly expenditure is below this poverty line, are called "poor". Later on, the government of Pakistan changed the definition of the poor: today everyone who is below the taxability line is considered to be poor. This made it easier for institutions such as KB to identify the poor. Everyone who is below the tax line due to too low of an income can become a customer (loan holder) of KB.

B. *The history, structure and role of KB in Pakistan*

The Khushhali Bank (KB) was established in August 2000 by the government of Pakistan, creating 14 private (partly multinational) and two state-owned commercial banks as a flagship for microfinance banking dedicated to offering microfinance services to the poor in Pakistan. Today, KB is the second-largest microfinance provider in Pakistan. The current market share of KB in active borrowers is 22.1% (19.4% in gross loans); KB is on second position after the National Rural Support Program (NRSP). Currently, more than 1,200 people are serving in KB at different hierarchal levels.

KB has divided its operation to geographical units: regions are divided into territories and each territory has several branches. The 114 branches have been designed in such a way that they can encompass the maximum demographic area of 5 regions. In May 2009 there were 16 territories. Currently the head office of KB is located in Islamabad while its business is spreading throughout Pakistan. KB has five regional offices, 16 territory offices and 114 branches throughout the country.

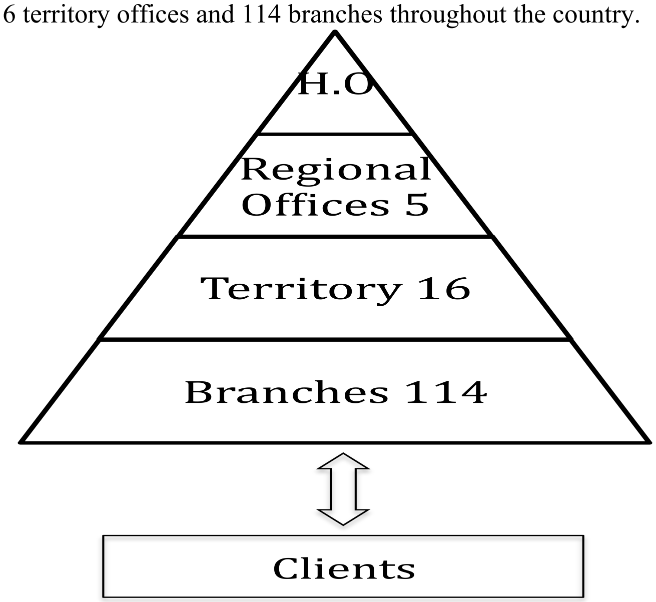

Figure 1: K.B's organization division

KB was designed to implement the microfinance policy of the government in response to the mounting rate of poverty, against a growing demand/ supply gap. It became an integral part of Pakistan's Poverty Reduction Strategy and its Microfinance Sector Development Program (MSDP) which was developed with the assistance of the Asian Development Bank (ADB). The primary objective of the KB is to provide sustainable microfinance services to the poor in order to reduce poverty and promote economic development through community building and social mobilization. The State Bank of Pakistan licensed KB under "Microfinance Bank Ordinance 2000". It is fundamental for KB to follow the service regulations and policies of the former.

In terms of products, the bank's portfolio includes short-tenure micro-loans ranging up to Rs. 40,000 (equivalent to approximately US 500 $) for working capital and asset-purchase. It also pro-actively mobilizes deposits and provides advisory services to its clients and continues to expand its range of services. There are different kinds of loans available depending upon the nature of applicant's work. All products follow a mass-product principle: no individual changes allowed.

Loans are also offered to either purchase investment goods like engine parts, machines, motors and other tools (inclusive agriculture tools) which can be used to enhance the income later on, or for the purchase of raw material or other supply needed in the current running business, as long as it may increase production. Rural credits are offered to small farmers for agriculture inputs like seeds, fertilizers, insecticides, and means of irrigation or transport, as well as for the purchase of livestock and cattle for small dairies, when these animals are used for breeding and other purposes. The Khushhali Bank also offers loans to individuals who want to start a new business.

KB charges an interest rate on the abovementioned product lines. In Pakistan, the normal rate of interest in microfinance is 26% (the expected inflation rate for 2009-10 is 11.17%). Two different types of costs influence the rate of interest: one is the cost of the capital, which is given to the client as loan. This cost belongs to the interests, which the bank has to pay to its investor. This cost varies with the size of the loan amount and is proportional to the amount of loan. The second cost is the transaction cost, the cost of delivery of a loan. This cost is almost fixed and depends on the operative infrastructure, but not on the size of the loan. The bank charges on a depreciated way: clients will not pay the same interest on each installment, but will pay a fixed interest on the diminishing unpaid credit. The mass product conception and the community / group-based lending help to reduce transaction costs.

However, why do customers accept such a high interest rate? Microfinance loans are still cheaper and thus easier to be repaid than normal bank loans. Our research found that local moneylenders lend money at even higher interests and with strong bindings. Furthermore, conventional moneylenders provide money but no other help for their clients. For instance, they do not insure them and in case of an accident, the loan recipient's siblings would have to pay the loan. Conventional banks do not offer financial services such as savings, money transfer etc.

MFI are the only institutions that offer these financial services to the poor. Therefore, poor people sometimes have to accept accessible credits at any cost. The small and easy installments with depreciated interest rates greatly help the poor to repay the loan in time. Similarly, the leverage in the bank may also help the poor a lot in case of failure in the repayment of loans with the rearrangement of loan installments.

Furthermore, the Khushhali Bank has started an insured loan scheme to make repayment of loans easier and more secure for the customers.

C. *Customer-selection*

According to the charter of KB, a 40:60 female/male ratio was to be observed both in regard of customers and staff. This decision was taken to develop the situation of women in the Pakistani society but caused cheating in several cases. For instance, women asking for loans hand over the money, once it is granted, straight to their husbands. As a result, the bank practically has given up gender preferences and only reaches a women quota of some 19%. There are no more particular measures to attract more women when disbursing loans. Similarly, the bank offers loans to both urban and rural areas without any preference.

For one household a maximum loan is limited to 118 USD for first-time borrowers. However, wealthy households can effectively circumvent the loan-size restrictions by sending several household members into one microfinance program. Although KB has criteria that the income of the borrowers must not exceed the limit for taxability, it is not clear if this stipulation is strictly enforced.

For any future member, there are strict criteria. First, candidates must live near the branch's operation for at least last two years. Second, all members have to possess the computerized national identity card.

According to our research, KB tries to keep away from political influence, since disbursing loans for political reasons is seen as bringing problems later. Another MFI has often been mentioned, which has recently faced problems due to its politically motivated proceeding; it needed to write off the debt of customers, which was experienced as a bad case among the rest of MFIs. Donor institutions expect from MFI that they do not write-off funds easily.

D. The loan-giving process

People in Pakistan, especially the poor, generally keep their tiny savings in other forms such as gold or little pieces of cultivatable land etc. Poor people do not have much liquid money or assets to pledge, so microfinance is their only access to money. As saving behavior is needed to secure that customers have enough money to pay back, micro-credits present a form of compulsory savings. This means that microfinance requires a change of behavior, which needs to be communicated to the clients, behavior, for example, related to possible benefits.

There are different ways to establish contacts between potential customers and the bank. Organizations such as the Family Association of Pakistan (FPAP) and some others work closely together to reduce poverty and develop the society. So either on behalf of recommendations of perspective customers by one of these organizations or the initiative of KB itself, an area is defined, which then is visited by the Business Development Officer (BDO).

In his pre-seminar visit, the BDO meets some elders of the targeted community or small town and tells them about the reasons for his visit. In some cases, the bank involves a political head of an area. At the end of the informal talks, the BDO proposes a date for a proper presentation, and requests the people to bring many other friends and neighbors on a particular date and time.

To disburse loans the BDO arranges some presentation regarding the loan, benefits, terms, conditions and methods etc. At the end of the first visit he finalizes the next meeting date. In the next phase, all perspective customers come together and discuss the whole process and loan. The BDO answers their worries and questions. In the end, they are requested to generate the groups and decide upon the next meeting date.

Figure 2: Account opening for disbursement of loan

People normally generate their groups according to their attachments, relationships, businesses or the like. But group members should belong to the same village or town. People have to be very careful about the group formation – and they are - because the bank does not take any guarantee for the loan, and the social prestige within the group is the only quasi-collateral the bank has to get back their money in case of failure. So everybody is supposed to be careful because he/she is liable for the failure of others, too. In contrast to standard collateral, normally group members are guarantor of each other but some time, social elders of society may also guarantee the loan application of single applicant.

When the group formation has been completed, the BDO fills out the "ILAs" (Individual Loan Applications). In rural areas, most of the time, the BDO fills in the forms of the applicants because the customers are illiterate. These applications contain personal data, a guarantee form, and financial in/out flow statements. BDOs generate cash flows statements on the basis of information supplied by individual client, as there is no proper financial record exists on client's end.

Data about a person is taken from the IDA (including father's name, mother's name, number of family members, their profession, etc.) and the national ID number. Since these customers are below taxability, they do not have financial records. The BDO is supposed to generate a kind of financial in/out flow statement with information given by clients. After the completion of the individual cash records, the BDO tells the participations about all remaining technicalities, norms and rules of the group. Normally this marks the end of the second group meeting. After the meeting, the BDO has to meet the group members individually and discuss all matters and responsibilities on the individual level.

If any one member refuses to stay in the group, the related application for a loan is canceled, and it is necessary to build a new group and application. Finally it is the duty of the BDO to verify the group and enclose a related report. Again, if the BDO has any doubt, he may cancel the application. Otherwise it is forwarded to an initial scrutiny at the branch level.

After the branch manager gives approval, the IDA is forwarded to the so-called Credit Specialist 1 (CS1). CS1 uses the bank´s specialized risk calculation software. He puts the cash flows statement into the software. A positive rating of loan and payback probabilities means a further step in approving the application.

The application is then returned to the branch manager, who forwards it to the staff who is in-charge of verifying National Identity Cards (NICs) from the National Database and the Registration Authority (NADRA). Once clients' NIC cards are verified, the application forms, reports and other documents are forwarded to the headquarters. The branch only holds a photocopy of the application forms.

The BDO is once again invoked: he visits the area or calls the applicants by phone to let them know about the status of their application. If the branch has a full service banking facility, applicants are requested to come and open the bank account. Their accounts are either credited up to the approved amount of the loan or checks for the amount are disbursed to the customers in the branch office. When a BDO goes to the village or to an area, he visits at least five customers in the group. This way the visit costs can be divided between at least five people.

E. Repayment Cycle

Regarding the repayment the group leader or group representative is expected to collect the payment installments from the rest of the group members and to come to the branch to submit it. For each payment, the BDO then issues the official receipt to the customer. One copy of the payment receipt goes to the bank record and another is transferred to headquarters.

According to the bank the payback ratio is very high, near 96.97%. KB applies practices and techniques which support a high repayment rate. Gender targeting was sought to be one of them: women in Pakistani society are seen as reacting more responsibly and are less mobile than men. However, as already described the quota of women borrowers is rather low.

Group lending or social collaterals offer another security for the loans. Group members have more information about one another than the bank may have. Because they are liable for each other, they care for the behavior of other group members, too. Once a group has been marked as unable to control defaulters, the MFI will hesitate to give loans in the future. That is why groups always have close contact and this cooperation is a network of strong ties (see Granovetter 2004).

Ghatak (1999) explains that the lack of information about the borrowers may lead to a discrimination against safe borrowers [14]. The group lending methodology provides a related solution to decrease the cost of imperfect information that would be, of course, a big problem in individual lending contracts.

Figure 3: BDO (center) initiating meeting and monthly recovery

The advantage of the frequent-repayment method is that it points out the possible defaulter clients immediately, thus giving early warning to pointed clients. For the borrower, the repayment process begins before the return on the investment, so he must have some additional savings or income to relay on. KB lends loans against the borrower's income. KB normally receives one installment a month; by applying a frequent repayment method it expects to lower the default rate and improve cash flow for the bank (Hulme and Mosley 1996) [17].

KB generally starts with a small loan size such as 118 USD, which may then be progressively increased as the borrower provides good repayment rates. The repeated nature of action and the threat of being excluded from further loans is sought to maintain a high repayment rate. This mechanism is more effective in areas where people are less mobile.

For achieving a high payback high ratio, insurance is beginning to play an important role as it protects the client and his or her family. In case of disability, the applicant is no longer able to continue his or her business: in this case, the insurance will pay his/her debt to the bank on his/her behalf. The applicant's family is kept outside the related measures. Insurance covers only the debt amount and the time period is as long as the debt period. KB insured his micro credit product related clients with New Jubilee Insurance's (NJI) insurance products. The bank only writes off the debt in case of the client's death or permanent disability.

In the case of outstanding installments, the first step of KB is to send the BDO to discuss the matter in detail with the applicant and to force him/her to pay. In case of failure, other group members are directed to force him/ her to pay. In most cases, such group interference enforces payments. If the problem is not solved, the bank manger is requested by the BDO to interfere. The bank manager is the only authority to re-arrange the payment installment and to settle the problem.

F. The technical infrastructure

While some small MFIs use manual ledgers or spreadsheets to manage payments, the Khushhali Bank (like many other MFI) additionally uses custom-built IS solutions. In the case of Khushhali, these solutions support handheld computers that record client information, scoring techniques that analyze data to predict customer behavior, and (not thoroughly working) data transmission.

Information systems (IS) technology helps MFIs to track, analyze, and report on their daily work routines. KB has an own centralized MIS system which, however, is not connected to all branches. Currently the new MIS development is said to be in the final stage to serve both microfinance and conventional banking to all branches. All branches are equipped with computers, printers, FAX and Internet connection. All real time data related clients' payments etc are digitalized by BDOs in branches. They are expected to be reviewed by managers later on, and transferred to a central MIS through emails. Papers-based records are also used to exchange information between branch and head office.

It is interesting that all branches have ICT facilities, but they do not have any direct access to the central MIS which very likely causes efficiency problems. For updates, branches use the monthly or weekly reports which are based on Excel sheets and transferred to the head office where the ICT department digitalizes all records and sends back required documents / reports. Field staff is not equipped with ICT equipment. They only use computers to write their reports within the branch offices.

Branches serving in rural areas are more than 100 KM away from branches, and use vehicles for field visits. In urban areas, the bank lends motorbikes to field officers. Their users pay the bike-usage from their monthly salary.

KB has also received the license for conventional banking from the state bank of Pakistan. Currently this service is only offered to its customers for saving and money transfer etc. in ten branches. Because attractive investment/saving schemes, online-banking and ATM are lacking, it is difficult to attract the general public to the banking services of KB.

V. PRACTICES IN THE OPERATION OF KB

We found out that many times, the branches use obsolete reports on the state of affairs in recovery. Most of the time, the outstanding balance report from the head office is two months old and has already been rectified by the branch using local records. Generally, the branch is dependent upon the reports of the head office. However, to keep an efficient check on recovery, many branches have started their own local records. These records were made by BDOs. These informal reports contain different kinds of data like last recovery date, amount recovered, remaining balance, and next recovery date.

The BDOs are the interface of the bank toward general public. Without their efficient efforts, the bank would not be able to do sustain and grow. The BDO fills out the application forms on behalf of clients. Similarly, while in principle clients have to come to the premises of the branch for repayments, the BDO collects the money, as well. But at the same time, the BDOs are badly equipped, little trusted and little educated.

There were also some examples of unacceptable proceedings. A female client of the Khushhali Bank, for instance, was running a small business. After a kidney failure she became dependent upon dialysis and was no longer able to work. In spite of that, she was urged to pay the loan back in time. Similarly, a taxi driver who had taken a loan from KB was looted and thieves opened the fire on him. He also became paralyzed in the hospital and was no longer able to drive. Nevertheless, he was repeatedly asked to pay back the installments in time.

In such cases, some BDO tried to describe the situation to the responsible branch managers, but as they did not get any proper feedback, they felt bound to the standard procedures. The BDO is used in such cases as a brainless automaton to follow generic regulations. Of course, this decreases efficiency and hurts the trust of clients in KB. The Khushhali Bank has reacted by adopting the insurance for microfinance but it obviously does not cover all existing cases.

During the informal discussions with bank officials, they several times reported that non-poor, especially young people, try to get loans for purchasing consumer goods like mobile phones, notebooks etc. Since the interest rate of microfinance is relatively low, it attracts non-poor households to join the program, too. To prevent wealthy people from using microfinance programs, there are some related exclusion mechanisms such as the small loan amount as such and the risk of stigmatization for being associated with poor people. Additionally the bank controls that no money is used for non-poor clients but, as supplying the better-offs would help the bank to diversify its portfolio and broaden its market share at the expense of the targeted micro finance scheme, it is not fully clear if this control is thoroughly maintained.

Repayment and trust

Although fraud is quite rare, some incidences were found during data collection. BDOs who had collected the monthly installments from their clients neither submitted them to the bank nor updated the status of clients' payback record. Instead they left and disappeared. As neither the bank nor the clients had any evidence of the payments, the clients were asked to pay the loan again. The clients, of course, protested, but were not trusted.

We saw that, although generally the credit-takers are expected to bring the installments, many of the customers want the BDO to come to them, either at a monthly meeting or for individual collection. Bank staff estimated the rate of clients which are served this way at more than 30%. Monthly meetings with the customers greatly help the bank to have close contact with and up-to-date information about the borrowers.

For the clients, individual problems regarding business or payments may be discussed when the BDO comes. The BDO analyzes expected problems and tries to create solutions, if possible. The BDO also informs the group members about attractive market opportunities. These group meetings are important for the community building and for the detection of growth options for the businesses of the members, as well.

That in spite of the risks related to the BDOs collecting the payments, this method of proceeding shows how much they appreciate this service. Otherwise, they had to close their small businesses and travel sometimes more than 50 Km just to pay back the small loan installments. In Rawat (a small area in Rawalpindi branch circle) people have to pay Rs. 250 for traveling to pay Rs. 500 to 700 loan installment. This is one of the reasons that they prefer to pay BDO at their doorstep or at a monthly meeting. Other reasons are related to the community building and informational effect related to group lending.

VI. Discussion

Nowadays, MFI increasingly look for ICT support. Third-party involvement and ICT-outsourcing have become popular among MFIs as the building of one's own infrastructure becomes expensive. For example, IBM offers a microfinance hub. KB is in negotiations with an ICT-supplier to get connectivity and other ICT-infrastructure. MFIs like the Khushhali Banks need a flexible and tailorable ICT infrastructure which is easily manageable by the users. It obviously is a major problem for MFI to get and appropriate a related infrastructure.

ICT outsourcing is expensive, too, and may contribute little to overcome the problems of the "last mile" and limits opportunities for related in-house competence building. On the other hand, MFIs like the Khushhali Bank are not able to digitally connect each branch individually while consortiums of different MFI might be able to run a shared technological infrastructure. Mobile-service operators and a network of the post office with commercial banks could be merged into a system that would enable a thoroughly digital microfinance management.

This is to say that not every solution must be developed in-house. Accessible, usable and tailorable technological solutions could be developed outside of Khushhali, too. On the other hand, even if there were related technology on the market, still there would remain its configuration, implementation and maintenance as in-house tasks for the Khushhali Bank. It appears as if the elaboration of an applied innovation strategy for the bank is a highly problematic challenge. Therefore, people have to "work around" existing problems and organizational bottlenecks.

Local Records:

For example, local records, either official or unofficial, played an important role for immediate information retrieval and decision making. Instead of waiting for reports from the head office or main server, local administrations react by establishing own local records to prevent abnormal activities to save time or to smoothen the operations. In KB, these local records give immediate information of client's total debts, paid amount and outstanding balance.

The quick identification of undisciplined payments or late-comers and further information concerning loans can be deciphered with the help of these local records. On the other hand, this practice leads to double work, and to possible version problems (which are the most actual data?)

The supportive role for clients of the BDOs

BDOs enable operation for the benefit of both the bank and illiterate clients. Right from the start of the process, they not only familiarize the clients with the bank's offers but also fill out application forms, inform customers regarding approval. Sometimes disbursement of loans is also done by them.

Most of the time, clients are illiterate and not able to read and write the application forms and processing of the applications. When the BDO takes over this task, he has to do it twice. A digital form entry could save time and fetch the real time data to the office.

Similarly, during monthly meetings, BDO discuss the normal agenda and inform clients about their business opportunities. Moreover, possible information regarding business requirements and the networking of different related clients also takes place during meetings if required by clients. As these clients are poor and illiterate and have less access to the market, they have less market intelligence, so the input provided by BDOs is very important for the empowerment of the poor.

Securing the resources of the poor

Though below the tax line, anybody can request a loan from a bank but it is the duty of the bank to give money only to needy clients. Many times non-poor or youngsters try to acquire loans to satisfy their demands, demands that may be purchasing of new mobile phones, computers or luxury products. Because of easy payment methods and non collateral-based loan, many non-poor customers are attracted.

To prevent such misuse of resources dedicated to the promotion of the poor, BDOs always examine the situation and verify the application, whether he / she is the right person or not, although otherwise they could gain a good number of active borrowers and good repayment rates

The identification of and control of borrowers could be partly replaced/ supported by ICT solution to speed up the process. Related changes have been discussed, but still lack supportive clients-focused technologies. Currently it is difficult to rate or to calculate the return on ICT investment and there is no current tool, technique or matrix available in this regard. Anyhow, it is clear that MFIs could enjoy benefits from implementing ICT solutions.

While some MFI have little digital technology, others have implemented much into ICT. In contrast to these differences, almost all of the MFIs are not satisfied with their technical solutions. This shows that, among those who implemented a lot of ICT, the technology has not yet become appropriated in a satisfying manner. Obviously, the implementation and configuration of the technological infrastructure is most demanding for MFI, even the more, as the technological process proceeds further. A synergic integration of ICT applications in MFI is everything than a matter of course guaranteed by technological progress: it is an ongoing struggle for the MFIs.

Our analysis shows that there are three main relations that could be supported by means of ICT. The first is the relation between the Bank and the BDO, the second the one between the BDO and the clients and the third is direct relation of the Bank to its active clients. Information Systems (IS) in the head office are not the key to efficiency. Currently the problems of communication and data exchange within the bank are one of major obstacles to any cost reduction strategy for Khushhali. When tackling these relations, IS integration at the branch level would not only have to replace the locally organized informal archives, but also become supportive for new BDOs to learn and share expertise with other BDOs. At the same time, an integrated IS must also be capable of handling all functions local archives support on the basis of the context knowledge of the responsible BDO.

To tackle, for instance, the situation of the credit-takers who have become unable to work, insurance is a promising way for the long term. But the examples show that there always may be unexpected developments. Therefore, the BDO should become more autonomous in regard of a partial or full writing-off of loans and the rearrangement the installments. However, there is no proper infrastructure available to share necessary information and to discuss such cases, and no related interaction culture. That should be changed.

Moreover, implementing solutions down to the field area will not only require trust, but also have to build trust, among the clients, too. Technology should reduce the possibility of fraud, cheating and delinquencies, and allow the BDO to find a new, more respected and transparent role. Online-support for both BDOs and clients could help for capacity building, mobilization and learning. Using smart card-based technologies could be combined with an integration of different records of clients, and give the clients a certain autonomy to do financial transactions without having to ask somebody else. However, it must not replace opportunities to contact the BDO face-to-face, and to discuss possible future strategies with him.

VII. CONCLUSION

By having looked at the practices related to the operation of KB in the microfinance sector, we had to understand the important role of the BDOs and their decisive role for further data integration, effectiveness and poverty reduction. This insight is complementing generic views on microfinance but is critical upon common attempts to innovate MFI by concentrating solely upon the headquarters. Our work shows that innovation has to address the MFIs as a whole and has to be more than a singular purchase of technology.

The BDOs play an important role in establishing social capital that is beneficial for many affected customers, as they learn about finance, business opportunities and possibilities of mutual support. The MFI benefits from the embedding of its operation into the rural environments, as a result of the activities of the BDOs. However, the important work of the BDOs is partly hindered by an ineffective infrastructure, e.g. urging them to do a lot of double-work and by a lack of respect in his work from the MFI.

The close contact between the BDOs and the clients should be further cultivated and supported with digital solutions which allow for more effective work and for the exchange of related experiences between BDOs. Different kinds of technologies like mobile-based user interfaces or digital input devices for the BDOs to avoid double-efforts for data entry need to be taken into account when looking for an applied microfinance infrastructure for the Khushhali Bank.

Applications supporting learning and community building among the clients should be in the focus, too, because lacking knowledge about products, trends and their business is a major factor limiting the efficiency of microfinance. However, to fill the technological gap between other levels of the MFIs and the BDOs is still easier than having to fill the gap between the BDOs and the clients.

Existing ICT solutions for banks remain a problem in areas where most of the poor clients are illiterate. Therefore, technology at the field level is very important but it needs to be developed, implemented and maintained in an appropriate manner. It should not replace the BDOs by automates but support their potential in building social capital to better improve the quality and outreach of bank activities. The innovation potential detected shows that it makes sense to study MFI empirically to develop applied technology instead of copying unapplied bank ICT. In particular, technology which enables the empowerment and education of customers has a lot of potential within microfinance ICTs.

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