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Using Palm Pilots to Reduce Microfinance Transaction Costs

An example from SafeSave in Bangladesh

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The microfinance institution SafeSave in Bangladesh introduced the palm pilot technology in 2003 in order to reduce its transaction costs and increase its outreach.¹ This case study analyzes how the palm pilot has changed the life of the staff and the clients of SafeSave in terms of transaction costs, security and confidence.

The author conducted the research over three months in Dhaka, Bangladesh, in late 2005. The results of the study are based on a comparison of income statements between branches with and without palm pilots and on interviews with staff and clients. Finally, conclusions are also drawn on the applicability of this technology for Microfinance Institutions (MFIs) working in rural areas.



SafeSave's Head office in Dhaka in 2005

SafeSave Bangladesh

SafeSave is a saving and credit cooperative that was co-founded in 1996 by Stuart Rutherford, a well-known microfinance researcher and practitioner, and Rabeya Islam, a woman entrepreneur with several years of experience in running savings-and-loan clubs among poor people. SafeSave developed an innovative, flexible and individual-oriented methodology for providing financial services to very poor people living in the slums of Dhaka.

Table 1: SafeSave, facts and figures (June 2006)

Date of creation	1996
Number of clients	11'371
Savings Portfolio	CHF 337'068
Loans Portfolio	CHF 549'446
Average loan size	CHF 70
Number of employees	94
Number of branches	8

The income of poor people is both irregular and unreliable. SafeSave provides its clients with a simple and flexible money management resource by allowing them to save small amounts

¹ The term "palm pilot" is used in this text as a synonym for a handheld computer.



(such as 1 Taka a day²), to withdraw money at any time and to take loans when they fulfill the necessary conditions.³

Since its creation, SafeSave has been providing two main products: a savings account and a loan scheme. SafeSave's service delivery method is in many aspects different from other MFIs:

- Clients receive daily doorstep visits from SafeSave's collectors (at home or at their working place).
- Acceptance of very small deposit amounts.
- Loan disbursements and savings withdrawals are very quick (one day after the loan request).
- Loan repayment is extremely flexible: no fixed terms and no instalments are pre-defined; only the monthly loan fee and a service fee are compulsory.
- Once a client has accumulated savings of Taka 1'000 he/she is automatically eligible to take a loan.
- In four out of eight branches the collectors use the palm pilot technology to register transactions.

Relationship between SafeSave and SDC

SDC has supported the introduction of the palm pilot system by financing 30 handheld devices, the adaptation of the Management Information System (MIS) and two software upgrades.⁴ SDC has also contributed to SafeSave's institutional development, from a research experiment to a self-sustaining MFI, by financing an international adviser for more than two years (2002 to 2005) who assisted the staff in developing operations and management systems.

How is the palm pilot used in providing financial services?

² 1 Taka = 0.02 CHF.

³ As long as a client keeps 1/3 of the loan amount on her/his savings account, she/he can withdraw the other 2/3 at any time. To take a new loan, the client must have paid back all the previous loans and the respective fees and any other household member should not have an active loan.

⁴ More information on SDC financial sector projects is given under http://www.sdc-employment-income.ch/en/Home/Financial_Sector

SafeSave started to use the palm pilot system in a newly opened branch in January 2003. At the end of 2005, four branches were using the palm pilot system. So far, the palm pilot system has not been introduced in any of the 'old' paper based (or 'manual') branches.

The palm pilot devices are used by collectors (as the field officers are called) to record the following financial transactions: clients' savings deposits, loan repayments, loan fees and service charge fees, and withdrawal of small amounts (up to CHF 10).⁵ Moreover, the credit limit for the next loan can be checked with the palm. The information in the palm pilot is uploaded to and downloaded from the computer at the branch office through a daily synchronizing process that takes only a few minutes. One collector with a handheld computer is serving around 180 clients.⁶

To perform any transaction on a client's account, the collector first introduces the last savings balance written on the client's passbook (palm does not provide this information beforehand). If the data in the passbook matches with the data in the palm, the transaction is carried out. If not, the collector takes the passbook to the branch office to check the reason for the mismatch. The mismatch needs to be resolved before the palm pilot can register any transaction again.

The high upfront investment is compensated by a better allocation of staff time

For SafeSave, the initial investment for the introduction of palms totaled CHF 23'490: CHF 22'500 for the development of a software by a local firm and the purchase of 30 palm pilots; CHF 750 for the desktop computer to run the system and CHF 240 for one UPS backup system unit.

⁵ Withdrawals between 10 and 100 CHF can only be made from the collector at the branch office. Above CHF 100, the branch manager personally hands out the money.

⁶ A similar number of clients is served by collectors working in 'manual' branches

These investment costs are largely compensated by the reduction in operational costs due to the time saved by staff using the palm pilot in comparison to staff working in manual branches (table 2). Although **collectors** save only around 3.6% of their time to record the financial transactions with the palm pilot compared to the paper support method, the palm pilot offers the advantage that the collector does not need to perform any calculation and the client's signature is not required. Furthermore, the collector can cross-check the total sum of cash-in-hand at any time, and the final amount is automatically displayed by the device at the end of the day, thus reducing the time necessary for the matching of balances and the cash count.

For the **assistant branch manager**, the significant time-saving effect of the palm pilot is related to the processing of the financial data. In manual branches, the time required to transfer all data from the collector sheets into the computer is around three hours (this represents 40% of the daily working time of the assistant branch manager). The palm pilot reduces this time to 30 to 40 minutes. The total gain in time for this staff group is 28.6%.



Slum area in Dhaka served by SafeSave

In 'palm' branches, all activities related to the handling of cash have been transferred to the assistant branch managers, giving **branch managers** a gain in time of 35.5% in comparison to manual branches⁷. The time saved has been reallocated to other activities, such as visits to potential and actual clients, unforeseen visits to collectors for cash bag

checking, and random spot-checks on clients' passbooks.⁸

Table 2: Time and money saved with the palm pilot system in comparison to manual branches

	Collector	Assistant Branch Manager	Branch Manager	Saved in total
Time saved (minutes/day)	15	120	149	284
Time saved (%)	3.6	28.6	35.5	67.7
Average salary (Taka/month)	3'000	5'000	7'000	/
Money saved (Taka/month)	108	1'430	2'485	4023

As a result, the number of transactions per month that a 'palm' branch can process with the same amount of staff is higher compared to the 'manual' branches. The average cost per transaction (savings deposit, payment of fees and loan instalments, excluding withdrawals) is reduced from 3.67 to 1.30 Taka.

Reduced risks of errors and fraud and increased staff confidence

In addition to the staff time saving, the palm pilot has many other positive effects: first, the technology significantly reduces the number of **errors**. In 'palm' branches one error is made out of 1'000 transactions, whereas in 'manual' branches nine errors out of 1'000 transactions are made.

Second, the palm reduces the risk of **fraud** by staff since no back-dated transactions are accepted by the palm pilot.

⁷ Cash handling activities are still performed by the branch managers in 'manual' branches in order to double-check the cash.

⁸ In September 2004, the branch managers received a special palm pilot version, which contains the monthly transaction records of all clients, in order to facilitate their account-checks in the field.

Furthermore, the date and time of each transaction is automatically registered, giving the management an efficient internal control mechanism.

Third, in SafeSave, the **self-confidence of the staff and management** has strongly increased, as they can perform their work in a more efficient way, avoiding mistakes and increasing output. Furthermore, they feel comfortable using the technology because they can provide correct and up-to-date information to their clients.

As a consequence, the loan loss provision is lower in 'palm' branches (1.12%) than in 'manual' branches (2.13%). This can be explained by the fact that the use of the palm technology increases the **efficiency of loan recovery** and the internal control, as much quicker attention is given to overdue clients. The branch managers can dedicate more time to visit clients with overdue payments and clients in general, which has a positive impact on loan recovery.

A faster growth of client deposits and the loan portfolio

In 'palm' branches, some 90% of the financial revenue is generated from fees and the interest rate on loans. With the introduction of the palm pilot system, new fees were set, producing an additional financial income of 10%.⁹ Clients are paying such fees without complaint. The palm pilots help to give staff a more professional image and to increase the confidence and willingness of clients to pay for services.

The palm pilot has increased flexibility in providing financial services, since the system offers a good control of the client's financial flows and statements.

New product rules have been set specifically for the new 'palm' branches, leading to a faster increase in the loan

portfolio. In 3 years, the first 'palm' branch has accumulated a loan portfolio (CHF 66'924) close to the loan portfolio of the youngest 'manual' branch (CHF 85'959) that has been running for 5 years.



Collectors using palm pilots

Last but not least, also the savings portfolio of 'palm' branches has experienced a faster growth compared to 'manual' branches in their early stage.

Advantages of the palm pilot from the client perspective

The palm pilot has had a positive impact on client satisfaction and confidence: one third of clients consider the use of the palm pilot to be absolutely necessary to perform the financial transactions, as it increases their confidence in the accuracy of transactions (see box 1 for an illustration of a client). Another third consider that the use of the palm pilot is good, but that the most important aspect is to keep a passbook with the correct information. The remaining third expressed indifference towards the new technology.

The general level of client satisfaction is very high: all interviewed clients declared themselves to be very happy with SafeSave due to the flexibility, quickness and transparency of its services. Moreover, they expressed confidence in SafeSave because the institution keeps its commitment to serve poor clients.

⁹ Entry fee is Taka 20; loan processing fee is Taka 50 and service charge fee is Taka 5 per month.

Box 1: A client's opinion on the 'palm' branch

Firoza is mother of three children. She joined SafeSave's branch of Millat in October 2004 when she decided to open an account and save small amounts of money to secure the future of her children. She also took a loan for her small business of sari-making which generates the household income. In one year she has taken four loans.

Firoza declares herself very happy with the speed of SafeSaves' services. In particular she appreciates the daily visits that are fast and useful in helping her save. Also the disbursement of loans is very fast; she was able to obtain a loan one day after she opened the account. Whenever she asks for information about her loan and savings she obtains an immediate and precise response. She is aware that the palm pilot helps the collector to avoid errors.

Firoza knows that the sound given by the palm pilot device means that the transaction has been correct, and also asks her husband to check the passbook to reconfirm the correctness of the financial transactions, as she is illiterate. She would not hand out the money if the collector came without the device.

Firoza thinks that her money is safe because she can ask to withdraw it whenever she needs it and can obtain it within a very short time. She fully relies on SafeSave and has advised other persons in the slum to make use of its services - particularly for the quality, flexibility, simplicity, and the daily visits provided.

Points to consider before introducing the palm pilot technology in rural areas

So far SafeSave has mainly worked in urban regions. But the institution also intends to expand into rural areas. Already in 2002, SafeSave founded its first rural project, which was registered as a co-operative in 2004.¹⁰

However, institutions working in rural areas have to consider potential

problems and evaluate them before adopting the palm pilot technology:

- Power cuts and fluctuations may be more frequent in rural than in urban areas.
- Problems related to weather conditions (humidity, floods, dust), which can cause damage to the palm pilot devices, may be more frequent and severe in rural areas.
- The long distances between the branch and the working place of field officers can represent a problem. It is important to guarantee that the information contained on the palm pilots can be downloaded regularly into the computer in order to reduce the risk of data loss.
- In areas with a low population density, operating costs tend to be relatively high, including the costs for using the palm pilots.

Conclusions

Despite its high upfront and maintenance costs, the palm system has many advantages for a microfinance institution: increase in staff efficiency and confidence, improved management information and internal control systems, and overall better information in terms of quality and timing (see box 2).

A pre-condition for the adoption of the palm pilot system is the existence of a good management information system (MIS). In order to use the palm pilot, MFIs have to develop their own software and adapt it to their MIS and their specific products.

In SafeSave's experience the use of palm pilots has generated considerable time savings for branch managers and assistant branch managers. The time saved has been reallocated to clients' visits, resulting in enhanced client satisfaction and higher loan recovery rates. The reduction of staff transaction costs and the resulting efficiency gains also allow a faster growth of the loans and

¹⁰ The co-operative Shohoz Shonchoy works in the Gazipur District. This rural version of Safesave was founded by Mr. Rutherford, CGAP and Plan International.

savings portfolio and increases the institution's outreach.

From the client perspective, the introduction of the palm pilot does not reduce transaction costs in terms of time saved. However, the use of this technology gives them more confidence that the transactions are correct and that staff are transparent and professional.

Box 2: Advantages and disadvantages of the palm pilot technology

Advantages

- Remarkably improved internal control.
- Increased flexibility in providing financial services.
- System provides accurate and up-to-date information.
- Time efficiency leading to enhanced productivity.
- Enhancement of staff confidence.
- Higher portfolio quality control.
- Reduction of the "digital divide" through the familiarization of the local population with the new technologies for professional purposes.

Disadvantages

- High up-front and maintenance costs
- Costs for updating the technology.
- Discontinuity in work in the case of technical problems with software or hardware and power cuts.
- High dependence on the software firm that provides the technical support.

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