

Personal Digital Assistants (PDA)

Charles Waterfield, with contributions from CGAP Staff and eChange, LLC

Loan officers working with little or no paper. Inconceivable? No, this is the reality for a number of microfinance institutions (MFIs) that have adopted Personal Digital Assistants (PDAs). PDAs are small, handheld digital computers that can run specialized programs to manage MFI and client data and perform financial calculations. Using PDAs, loan officers can consult an electronic list of borrowers in arrears to plan collections visits, review clients ready to apply for their next loans, and refer to historical client information, while working in the field. Loan officers can even fill out loan applications forms on the PDA and calculate the indicators used for loan review and approval. Virtually all client data and client visit records are stored electronically and are immediately available in a device small enough to fit in a shirt pocket.

Who Should Consider PDAs?

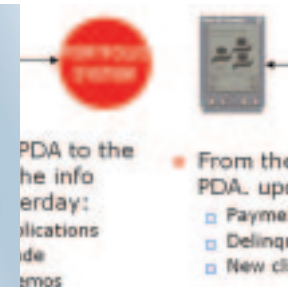
Since PDAs are a platform that can run various software programs, MFIs can use the tool to improve performance in a range of tasks. MFIs may want to employ PDAs to standardize their credit methodology and operating policies, improve loan officer efficiency, and increase data accuracy and access in the field. In Latin America, where increasing competition is forcing MFIs to lower costs and improve service, several MFIs are using PDAs to save on relatively high labor costs.

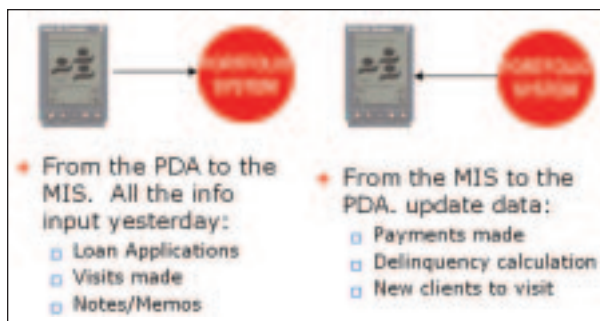
MFI loan officers are not the only users of PDAs. In some cases, MFIs have implemented PDA technology to enable client group members to collect their own data more quickly and accurately.

How Do PDAs Work?

PDAs run simple database applications that must be custom-designed for an MFI to ensure compatibility with its management information system (MIS). The PDA does not *replace* the MIS of the institution; it *supplements* it.

Users input data by tapping on the screen with a stylus to make selections, entering data through a small keyboard, or using handwriting recognition software. Information is transferred between an MIS and the PDA, shared through a “synchronization” process. The type of information may vary by institution. Data entered by the loan officer is imported and merged into the main MIS, and any new, relevant information in the MIS is downloaded to the PDA. Although some MFIs are researching wireless technology to transmit data, virtually all MFIs currently use a physical “synchronization” process in which the PDA is connected to a personal computer.





Requirements for PDAs

- A stable, well-functioning MIS
- High-speed access to MIS data from branch offices
- Strong support from top management for implementation
- Capable MIS technical support to adapt it to support PDAs, if necessary

Benefits and Costs of PDAs

Benefits

- Standardization of work procedures
- Increased productivity, efficiency, and accuracy of field staff
- Improved monitoring of delinquent loans
- Improved time management
- Faster and more accurate credit approval process (with the potential for automatic approval and credit scoring in the field)
- Reduced volume of paper records

Costs

Software costs for the implementations described below range from US\$ 20,000–\$ 80,000, including development of the PDA application software, the interface between the PDA and the MIS, and adaptations to the MIS necessary to integrate the PDA technology. In addition, hardware costs range from US\$ 100–\$ 200 per PDA, and annual software maintenance costs ranging from US\$ 3,000–\$ 10,000 per year. Most MFIs contract an outside firm to handle the development of the

software and the user interface. The duration of the development process ranged from nine months to two years.

Microfinance Implementations

The use of PDAs has spread since 1999, when Compartamos and FinComun, both in Mexico, were the first to implement this technology. Twelve MFIs that use the technology were examined for this series: one in India, one in the Philippines, and the remaining 10 scattered throughout Latin America. However, many of the projects are still in early stages, and few of these MFIs have conducted in-depth cost-benefit analyses.

ADOPEM (Dominican Republic)

ADOPEM thoroughly evaluated its PDA program and recorded dramatic improvements. Client retention improved significantly, and the number of days between application and disbursement dropped from five days to two days. Expenses for paperwork dropped by 60 percent and data entry expenses dropped by 50 percent. Loan officer caseloads and other productivity measures increased by about 35 percent.

Compartamos (Mexico)

Compartamos recently suspended its use of PDAs after deciding that it had higher priorities and acknowledging that the technology had not operated smoothly. Management believes that it may have implemented PDAs too early, when the software development tools were not mature enough. They also had difficulties with the interface between the PDAs and their MIS, a problem echoed by many of the MFIs surveyed.

SKS Microfinance (India)

SKS implemented PDAs to record transaction data during group meetings, not for detailed loan analysis as other MFIs surveyed had done. After

saving only about five minutes per client-center meeting (a 10–12 percent improvement), SKS discontinued use of the PDAs. SKS's management believes the tool has reduced the scope for error and fraud, but has not been able to quantify this impact. Electronic transfer of data improved the timeliness of information available to management, but because SKS already had a sophisticated MIS in place, the time improvements were not dramatic.

BanGente (Venezuela), Banco Solidario (Ecuador), FinComun (México)

With their implementation of PDAs, BanGente and Banco Solidario have improved workflow efficiency, reduced operational costs, and made better information available to loan officers. However, it has not quantified these results. FinComun's management reported that PDA technology has increased the consistency of work among loan officers and saved staff time in the field.

Lessons for Implementation

Despite its potential to increase efficiency, PDAs are not a solution for fundamental operational problems, nor are they a substitute for staff training. PDA technology tends to make a good institution run better.

All of the MFI managers interviewed agree that success depends on the right conditions and a careful implementation plan. They share the following advice to those considering adopting PDAs:

Leverage the use of PDAs as much as possible

The ability of PDAs to save staff time depends on the methodology used by the MFI. Those institutions that input a substantial amount of client data or business data, particularly in the loan application stage, could see significant improvements, as several MFIs did.

Start with a stable MIS

PDA technology does not replace an MIS. Rather, it requires a well-functioning MIS for effective results. Any changes to an MIS after implementation of PDAs may necessitate changes to the PDA software to maintain compatibility.

Have relatively stable, proven loan products

If the PDA is used to manage loan analyses, any operational policies or rules programmed into the PDA software must also be changed when any applicable part of the MIS changes, such as the layout of application forms, the data points collected, and the logic for loan analysis. Although products should change and evolve, relatively stable products will reduce the need for substantial modifications to the software.

Ensure strong support from top management

PDA technology can affect the way that nearly everyone in the institution works, and will therefore generate widespread fear and reluctance to change. Easing the transition process requires full commitment from management.

Have high-speed access to MIS data

With slow transmission speeds, such as with dial-up Internet access, remotely synchronizing data stored on the PDA with the MIS may take 30 minutes or longer. This is an unacceptable length of time in cases where loan officers must synchronize regularly. Dedicated high-speed transmission lines between the head office and the branch offices will resolve this problem.

Have capable MIS support

The use of PDA technology makes an MFI more reliant on high quality technical support that is always available and responsive, especially if such support is outsourced.

Think through implementation issues carefully

Implementing PDA technology can create conflicts between staff and management which must be addressed before the implementation takes place. These conflicts may occur over which party must pay for a lost or damaged device, whether management can use the PDA to monitor staff time, and how much access staff has to the client data stored on the PDA. For most of the MFIs interviewed, the development of the PDA system took longer than envisioned due to complications such as these that arose during the development and implementation process.

Define success up-front

Management must make clear, at the beginning, what results they expect, such as the amount of time savings in loan analysis or in group meetings. They should err on the conservative side when making cost-benefit estimates. Setting these objectives in quantifiable terms makes it easier to perform cost-benefit analyses once the project is underway. Often, the technology does not reap the anticipated benefits, and if those benefits are marginal, the cost may not be justified.

To Learn More

PDA providers

All the institutions surveyed developed their own custom applications, as MIS vendors do not offer integrated PDA applications. As a number of vendors are now developing individual PDA modules, however, such applications are likely to become available.

The following vendors contacted CGAP during research for this article:

WillPower Communications Limited,

www.willpower.co.ke

BASIX & Saven Technologies Limited,

www.basixindia.com, www.saventech.com

CGAP has not reviewed their products nor does it endorse them in any way.

Organizations surveyed

BanGente, Juan Uslar Gathmann, **juslar@bangente.com.ve**, 58 212 873 2142

Banco Solidario, Pedro Carrasco,

pcarrasco@enlace.fin.ec, 593 2 226 2267

ADOPEM, Mercedes Canalda, **m.canalda@code-tel.net.do**, 809 563 3939

Compartamos, Carlos Labarthe, **clavarte@compartamos.com**, 528 628 1236

FinComun, Vicente Fenoll,

vfenoll@fincomun.com.mx, 52 55 5200 1639

SKS Microfinance, Vikram Akula, **vikram@sksindia.co**, 91 40 2354 8512

Industry resources

About.com, **<http://palmtops.about.com>**

PDA Ed, **<http://www.pdaed.com>**

Dave's PDA, **<http://www.davespda.com>**

Other resources

World Resources Institute's *Digital Dividend Project*, **www.digitaldividend.org**