Photo courtesy of Musoni:
Musoni loan officer meets with client in the field

ACCION

Digital Field Applications:
Musoni Case Study

Channels & Technology, Accion

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About Channels & Technology

Accion is a global nonprofit dedicated to building a financially inclusive world with economic opportunity for all, by giving people the financial tools they need to improve their lives. Accion's Channels & Technology team is an experienced group of professionals who have worked with a variety of financial institutions and FinTech companies to plan, test and implement innovative technologies and methods to reduce the bottlenecks for achieving financial inclusion growth and scale.

About Software Group

Software Group is a technology company focused on providing products and services to the financial inclusion sector. With global operations, Software Group has a wealth of experience in deploying complex technology solutions for its clients. In addition to designing and deploying solutions, Software Group provides consulting services, with a particular focus on assignments that, as with this case study, help share lessons learned from the sector.

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Executive Summary

Around the globe, microfinance institutions (MFIs) have provided access to finance to many people who were previously excluded, offering a range of quality, affordable services marked by convenience, dignity, and consumer protection. Historically, however, bringing these services in the field to the client has been a costly manual process, which has limited the ability for scaling up and created vulnerability to sub-optimal service, errors, and fraud. In response to the challenge of balancing outreach with costs when providing financial services to the underserved, there has been a rise in recent years in the use of tablets, smartphones, and other devices that digitize microfinance field operations for the sake of realizing much-needed efficiencies. For example, loan officers equipped with these devices can process loan applications and answer client inquiries in the field, eliminating paper forms, digitizing data, and saving time and money for organizations and their clients.

The use of these tools, in the microfinance sector, which we call Digital Field Applications (DFAs), is still at a relatively nascent stage, limited to early adopters or new market players, most of whom incorporate the technology into their initial process and market offering. The slow adoption of DFAs has in part been attributed to the providers' lack of understanding of the impact DFAs have on the business models of MFIs,[1] for clients, and most importantly for the staff using DFAs in the field.

The objective of this study is to address these issues by providing clarity on the impact of DFAs by examining the business case, implementation process, and effects at three MFIs around the world. Additionally, we provide lessons learned from the DFAs reviewed which could serve as guiding principles for other financial institutions. The institutions we partnered with for the study were Ujjivan Financial Services in Bangalore, India; Musoni Kenya in Nairobi, Kenya; and Opportunity Bank Serbia (OBS) in Novi Sad, Serbia. This case presents the findings from Musoni. The findings from Ujjivan and OBS, as well as a consolidated review of the three cases, can be found on our website,[2] with an accompanying Excel-based business case toolkit, which is available for MFIs to examine the prospects of DFAs for their specific business context.

Findings

Musoni's key objective in implementing a DFA was to reduce loan turnaround time (TAT) and thereby increase loan officer productivity as well as improve customer service. Additionally, Musoni hoped that digitizing client information would help it develop a credit scoring database. After DFA implementation, TAT declined from 72 to 6 hours on average, with a maximum TAT of 48 hours observed.

Clients also benefited from increased convenience due to a faster loan application process with fewer Know Your Customer (KYC) documents required as well as a reduced risk of fraud.

Musoni benefited from a 68 percent increase in caseload per loan officer, as decreased TAT allowed officers to serve more clients more efficiently. Back-office and loan-process procedures were also streamlined, further reducing costs.

1 This paper discusses the use of DFAs that could be deployed by a host of different financial service providers, from MFIs to commercial banks. While we use terminology associated with MFIs, this does not preclude other types of financial service providers who have some component of field operations that is suitable for digitization.

2. http://bit.ly/1UphWmp

2

Introduction

Musoni, a microfinance institution based in Nairobi, is also the first Kenyan MFI to be 100 percent mobile. Its mission to digitally optimize microfinance service delivery drove it to implement a Digital Field Application.

Musoni was introduced to the market in 2009 as "the next generation microfinance," deriving its name from "m-usoni," where *m* stands for "mobile" and *usoni* is the Swahili word for "future" – hence "Mobile Future." The Musoni brand was founded by Musoni BV, a company based in Amsterdam, Holland, with considerable experience working in the field of mobile banking and microfinance in East Africa.[3]

Founded on the principles of cashless and paperless operations, transparency, and quality service, Musoni initially focused on group lending. Its core aim is to deliver the best value and the most flexible and most customer-oriented financial services in the market by leveraging the latest Information Communication Technology.

Operations were launched in Kenya in 2010, entirely on a cashless basis. Clients received their loans via Safaricom's mobile-money platform, Mpesa, and used the same service for repayments and mandatory savings deposits. This model proved beneficial both for clients and Musoni. Clients benefited from reductions in transportation costs, transaction times, and the personal security risks of traveling to branches with cash. Meanwhile, Musoni avoided high-cost investments in branch infrastructure, since cash-handling facilities were not required and branches[4] could be simplified in terms of the services they needed to offer. Additionally, loan-processing and back-office processes were streamlined through the seamless processing of all transactions between the institution and Safaricom. By 2015, Musoni Kenya had disbursed 75,000 loans totaling KES 2.1 billion (U.S. $23 million). Today it serves over 15,000 clients through a network of 15 branches across Kenya. Table 1 provides an overview of Musoni's performance to date.

TABLE 1

Musoni Overview

Geographic region: East Africa

Head office: Nairobi, Kenya

Regulatory status: Credit-only MFI

Year established: 2010

Total clients: 15,000

Loan portfolio: U.S. $5.4 million

Total disbursement: U.S. $23 million

Number of branches: 15

3 Musoni Investments (Musoni BV) is an investment fund dedicated to setting up and supporting best-practice MFIs that serve entrepreneurs in the developing world. While Musoni BV remains an investor in Musoni Kenya, the Kenyan MFI has a number of other investors represented on its board.

4 Musoni's 15 branches provide fully decentralized loan-processing services, with the seven larger branches managed by a branch manager, and the others by a senior loan officer. No branch handles cash, which reduces the security and complexity of the branch setup.

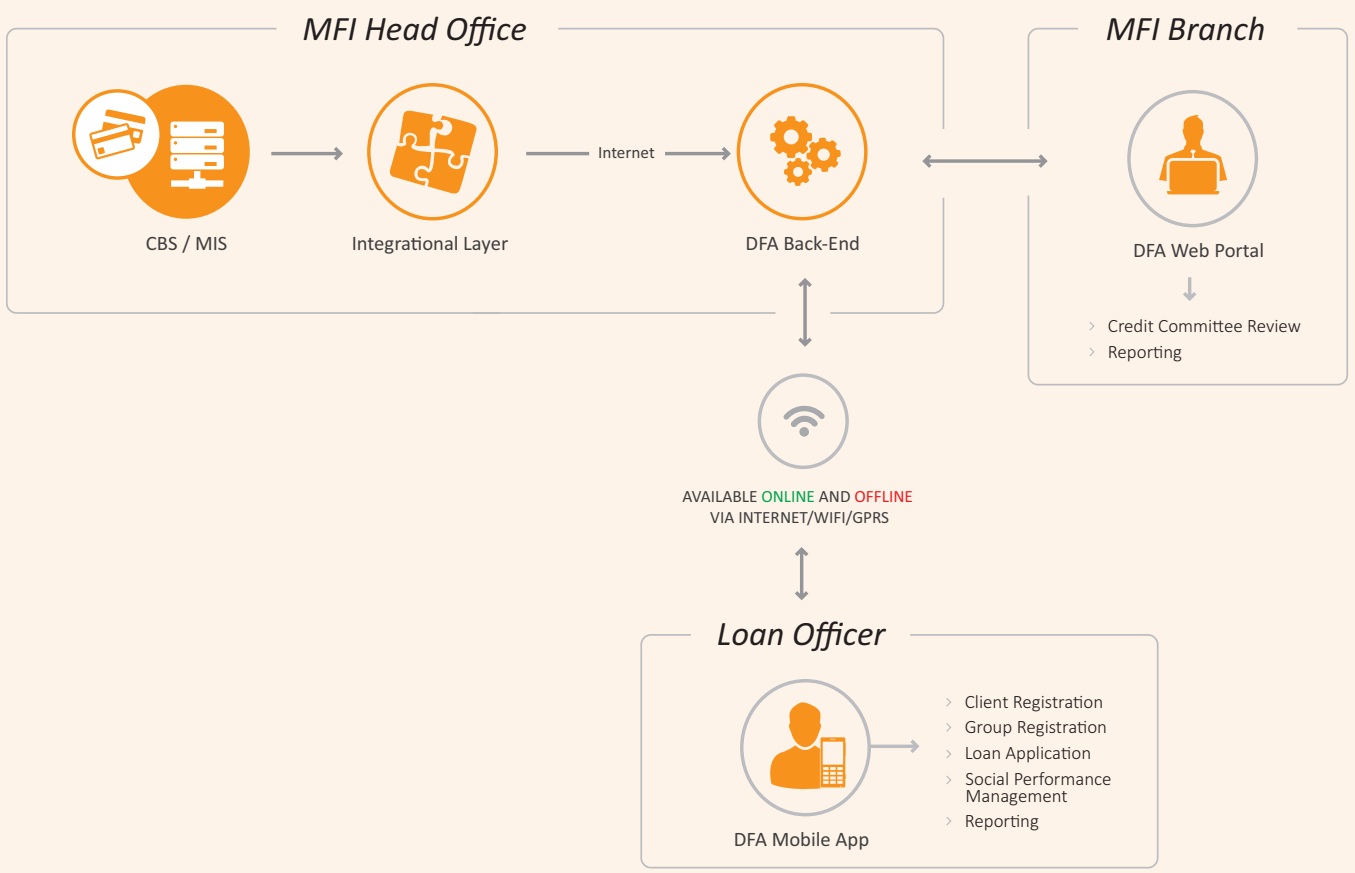
Overview of the Digital Field Application at Musoni

In line with its mission to leverage technology to optimize operational efficiency, Musoni initiated its plan to use DFAs in 2012. The business goal of this initiative was to utilize mobile technology, particularly Android tablets, in the field to enable loan officers to capture client data electronically, minimizing costs and improving customer service. A key element of financial inclusion is convenience, and Musoni wanted to ensure access to credit was also a convenient service for its clients.

Musoni's tablets run a customized application, capable of operating in both online and offline modes, suitable for use in rural areas with limited mobile data connectivity. The DFA was designed to replace the costly and cumbersome paper forms, used previously as part of client and group registration and loan processing, with an easy-to-use interface to ensure quick data entry. The mobile application was integrated with a web portal that was accessible from the branches. This gave branch staff, and particularly credit committee members, the means to review and approve loan applications initiated from the DFA in the field. Figure 1 below shows an overview of the DFA's implementation at Musoni and its functionality.

FIGURE 1

DFA Overview at Musoni



3

Implementation Process

Musoni designed its DFA as part of an overall efficiency review, analyzing processes in the field and at branches to determine how loan turnaround time and costs could be reduced.

Planning & Analysis Phase

By going paperless, Musoni was hoping to speed up loan disbursement and deliver a higher quality of customer service to its clients. Internally, it anticipated that digitizing client data would provide valuable information to influence management decisions, product design, and possibly the automation of the credit decision-making process through improved credit scoring. Lastly, Musoni hoped to improve portfolio quality with automated checks and controls built into the DFA.

Musoni conducted a detailed requirements analysis which looked at the specifics of how the application needed to work to realize its objectives. In terms of core functionality, it was clear that the mobile application needed to support the following business requirements:

- Ease of client and group registration including KYC document capture
- Efficient loan application processing including site visit data collection
- Ability to efficiently collect and track Social Performance Management (SPM) data
- Offline ability for field staff to access basic reports related to their portfolio

After assessing the quality and availability of connectivity in the target usage areas, Musoni concluded that all functionality needed to be available in an offline mode, with the ability to sync data on request when communications were available.

Additionally, regulatory analysis revealed an unclear policy position regarding the use of digital signatures for loan contracts. While Kenyan regulation indicated that digital signatures would be acceptable, Musoni was not comfortable to be the first to test the law. For this reason Musoni chose to retain its physical contracts so that both the client and Musoni would have a physical copy of the contract. This meant as a result of the DFA, loan application forms were drastically reduced in size, but not fully eliminated.

After confirming the requirements for the field application, the team reviewed the needs of the branch staff. For these users, the key requirement for the credit committee was to have an efficient means to review and process the loan applications initiated in the field. In response, the DFA team concluded that the web portal, already in use by branch staff, needed to be enhanced to enable the committee to review all data collected in the field and easily take action on loan applications. This web portal also needed to enforce the various business rules surrounding credit decision-making, such as checking for existing loan balances owed by clients applying for new loans, or ensuring that no one in their group was in arrears.

Development & Implementation Phase

The development of the DFA started in August 2012 and was undertaken as a joint effort between Musoni's IT department and contracted developers based in Kenya. After identifying the application requirements, Musoni decided to split the development of the application into two phases. The first would focus on client/group registration and reporting and the second would build in additional support for site visits, loan applications, and the web portal for the credit committee.

Application development was organized in "sprints" with developers working on a specific set of tasks arranged according to the functional modules of the DFA, namely client registration, group application, site visits, loan applications, and reporting. Front-end mobile development was handled by a Kenyan contractor using detailed specifications prepared by the IT team at Musoni. The back end of the DFA, which included the web portal, synchronization functionality, and the integration to the MIS, was built in-house by a team of developers with significant experience from previous MIS projects. Despite the team's experience, the back-end components still proved challenging, particularly the functionality required to sync data from offline to online modes and the workflow between the tablet and web portal, especially where rejections needed to be handled. Fortunately, the team managed to overcome the issues with minimal delay in the project timeline.

While basic testing took place throughout the development stage of the project, in-depth testing took place with the first release occurring three months into development. This release included tests of the core functionality of the DFA as well as client/group registration and reports. The testing process revealed only minor issues at this stage, although the team was aware that the real test would occur when the DFA was used by loan officers in the field as part of the planned pilot.

Pilot & Rollout Phase

Pilot

The design of Musoni's DFA pilot took into account several input criteria when selecting the pilot branches:

- **Branch maturity** – Musoni wanted to select branches that had more than one year of operational experience so that staff and clients were already familiar with Musoni products and processes.
- **Good portfolio quality** – the PAR of a branch helped influence whether it was chosen to pilot the DFA, since Musoni management wanted to ensure that branches with portfolio-quality issues stayed 100 percent focused on quality without any distraction.
- **Talented project champions** – the availability of skilled employees willing to become DFA champions also influenced branch selection. Musoni knew that the project would require enthusiastic and hardworking staff to surmount any initial hurdles associated with piloting something new.
- **Semi-rural location** – Musoni was also keen to prove that the DFA could assist with expanding outreach beyond the typical branch operating areas, which meant that it needed to pick a semi-rural branch as opposed to an urban location.

Musoni opted to test the DFA with its Naivasha branch, which met all of the criteria listed. Of particular importance for the pilot was the presence of a strong branch team led by a technically skilled branch manager who had already proven their ability to manage the quality of the portfolio within acceptable ranges. The pilot was planned to commence with a short on-site training by the IT team and then move directly to the field to identify and resolve any issues that had not been flagged from previous tests. The plan was to run the pilot with phase-one functionality for one month, then upgrade the application for phase two and pilot for another month. Management would then have to decide on approving the DFA rollout to other branches.

The results of the pilot proved positive both from a technological and organizational point

of view. Minor issues arose related to poor battery life of the tablets, connectivity between the tablets and servers, and familiarity with using a tablet, but these were addressed quickly and sufficiently. Of some surprise to the project team was the overwhelmingly positive reaction of the staff. Loan officers saw the tablet as a status symbol, elevating them in the eyes of their clients and colleagues, so they did all that was necessary to quickly master the device and application. Using the DFA required some additional data entry, yet staff still appreciated that overall the technology simplified their work. For example, a simple loan calculator added to the DFA instantly relieved loan officers of the need to manually calculate repayment schedules for client inquiries. Within the branch, the data entry clerks who had been responsible for data capture before the project were also positive toward the DFA, largely because many were promoted to being loan officers themselves or to other higher paid positions.

At the end of the two-month pilot in Naivasha a review was conducted to evaluate the potential of rolling out the DFA to subsequent branches. Management was pleased with the results and agreed to expand usage to two more branches, both of which would also pilot for two months. It is worth noting that at this point, management was not looking to measure immediate returns on the DFA investment, and instead saw that the technology was a necessary component of their overall business strategy; therefore, only major issues or drastic failure of the technology would have halted the project.

Rollout

Following the pilot phase, rollout to all branches was complete by the end of 2013. Currently, the DFA is used by 61 loan officers in the field, supporting Musoni's entire group-lending portfolio. All branches rely on the credit committee web portal for reviewing and approving loans. The DFA is currently only used for group-lending clients, representing 96 percent of Musoni's loan book, but plans are underway to extend its use to individual loan applications.

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4

Impact

Musoni recognized the DFA's positive impact almost immediately after deployment, disbursing loans faster and saving clients time and cost.

Client and institutional benefits attributed to its introduction into Musoni's operations are outlined in Table 2. Institutional benefits are further categorized by cost savings, efficiency enhancements, and additional adjacent benefits. These are discussed further in the following section.

Client Benefits

From the clients' perspective the use of DFAs was instantly deemed a success. Loans were disbursed faster, and clients no longer needed to gather and provide photos and ID photocopies to register, a change that saved each new client KES 210 (approximately $0.20), in addition to saving the time required to obtain these documents plus any associated transportation cost. Additionally, loan officers could respond to client queries faster thanks to the reports the DFA made available. Clients could now easily check their account balances by asking their loan officer in the field. They felt the introduction of tablets proved their financial service provider was trying to do things differently and genuinely cared about the quality of service it was offering. Lastly, one group of clients who were interviewed observed that with all the records now digitized and harder to manipulate, the likelihood of someone committing fraud via ghost clients was drastically reduced. Thus clients felt an increased sense of confidence in dealing with the institution. Finally, preparation and follow-up activities to group meetings improved and clients could get real-time feedback during meetings, which previously took days.

Institutional Benefits

√ Cost Savings

One of the first improvements that Musoni noted after implementing the DFA was the elimination of data entry needs at each branch, since all data was now captured directly in the field by the loan officer. Data entry clerks were reassigned within the business, representing a direct cost savings for Musoni in terms of salary and the computers used by these staff. The second cost saving benefit was the drastic reduction in required stationery and storage. Loan applications were reduced from 11 pages to 2, retaining only what Musoni and the clients needed for physical signatures and physical copies of the terms and conditions of their loan contract. All other paperwork associated with site visits and daily reports was entirely eliminated.

√ Efficiency Enhancements

Analyzing the key performance indicators of the DFA, Musoni saw the greatest impact on TAT and loan officer caseload as indicators of operational efficiency. Prior to using the DFA, Musoni was already demonstrating faster TAT than the standard in the Kenyan market, with loans typically disbursed within 72 hours of application. Post-DFA this number was further reduced. Some loans, particularly for repeat

TABLE 2

DFA Impact

Client Benefits	Institutional Benefits		
	Cost Savings	Efficiency Enhancement	Adjacent Benefits
Client photographs and ID copies not required with digitized KYC	Reduction in data entry staff	Reduced TAT	Digitization of increased client information can lead to digital scorecard development
Improved loan TAT leads to better customer service and business opportunities for the client	Reduction in data entry hardware (e.g., computer, scanner)	Caseload improvement	Improved enforcement of controls and policy (reduced fraud, PAR)
Reduced risk of ghost accounts	Reduced printing	Increased geographic coverage	
	Reduced file storage		

customers, were disbursed within six hours of application, with the slowest case reporting a TAT within 48 hours, a full 24 hours faster than the previous average.

Decreased TAT was attributed directly to DFA usage and the attendant benefits of streamlined documentation and data entry. Previously, the need for physical client photos and ID photocopies often delayed processing if clients didn't have these documents ready at application time. Similarly, there was no longer any need for branch-based data entry of the paper forms submitted by loan officers. The newly digitized process meant that loans submitted by the field staff via the DFA could be reviewed the same day, if the credit committee was meeting at the end of the day, or the next morning. Approved loans were then automatically disbursed via Mpesa, resulting in the clients typically receiving their loans within one day of application.

With shorter TAT and more efficient processes, it is not unreasonable to think that the number of clients that a loan officer can service (i.e., their caseload), should increase as a result of digitizing processes. However, while an MFI's efficiency has a strong effect on caseload, there are a range of additional influencing factors, such as lending methodology (group vs. individual), maturity of the institution, loan request complexity, staff skill level, available products, demand for credit, population density, client proximity, group size, meeting frequency, and the loan application processes currently in place.

In this case, branch maturity, loan size, and loan officer training influenced caseload size, yet Musoni management felt that DFA introduction was the strongest contributing factor to the significant year-on-year increase it observed. On average, the five main branches recorded a 68 percent increase in loan officer caseload from January 2013 (pre-DFA) to December 2014 (one year after full rollout). CEO James Onyutta attributed 70 percent of the caseload improvements to DFA deployment.

The final efficiency improvement that Musoni noted was related to loan officers' decreased reliance on branch offices and the positive effect this had on their outreach. Traditionally,

TABLE 3

Loan Officer Caseload per Branch Since DFA Launch

Branch	January 2013	December 2013	December 2014
Naivasha*	130	185	302
Zimmerman^	198	214	263
Gikomba^	212	193	352
Thika*	195	215	226
Kitengela^	130	194	254

* Newer branches
^ Mature branches

loan officers visited the branch daily to collect their reports and submit any forms completed in the field. With the DFA allowing remote access to reports and digital data capture, these trips to the branch could be scheduled less frequently, allowing the loan officers to travel further to serve clients and save on transportation costs. However, loan officers were still required to visit branches several times per week to participate in credit committee and weekly branch meetings. Therefore, while the DFA eliminated the need for them to visit each morning and evening to collect reports and submit loan applications, loan officers maintained strong ties to the branches.

√ Adjacent Benefits

Musoni also recognized additional benefits from the digitization of 100 percent of client data collected, both for approved and rejected loans. Previously, only a small percentage of data on the physical forms was actually input into the MIS, and only for approved loans. This meant that much data that could be used to build a reliable credit scorecard, especially when determining potential to graduate from group to individual loans, had not been captured. DFA usage thus opened new possibilities by more comprehensively documenting client credit histories.

Included in this newly digitized data was the social performance information captured by Musoni, which had been introduced just prior to the DFA launch. Digitization improved data capture and analysis, allowing Musoni to more efficiently produce its social performance reports for management and investors, demonstrating social as well as financial impacts.

The addition of the web portal to support credit committee meetings resulted in improved enforcement of company policies, due to the increased number of digitized system checks and balances related to credit-lending decisions. The daily credit committee meetings were much shorter in duration, with each application now taking approximately two minutes for review, down from five minutes when this process was completed manually. This reduction is attributed not only to the fact that all information is digital and therefore checks can be automated, but also to the embedded rules in the credit committee module that immediately inform the manager if a loan isn't meeting the required criteria, ensuring that time isn't spent reviewing applications that don't comply with company rules.

While changes in PAR were not an objective for Musoni when it rolled out the DFA, it recognizes that it is now much more difficult for loans to be disbursed that do not pass the

defined criteria, thereby filtering out potential bad borrowers more effectively at the time of application. Additionally, with group and individual reports now available on the tablets in the field, the loan officers are empowered to follow up on collections more efficiently, an advantage that seems to help in the management of portfolio quality. Musoni will be tracking this impact going forward.

Challenges & Lessons Learned

While the DFA achieved many positive results for Musoni and its clients, there were also challenges and lessons learned. First, the deployment at the first branch demonstrated the importance of a robust mobile device with a good battery life. Initially, a cheaper tablet had been chosen, but Musoni upgraded the model when it became clear that poor battery life affected productivity. Battery life and performance improved with the upgraded model, but reportedly it is still a challenge, particularly as the devices age. Second, Musoni recognized the need for careful change management, especially as the responsibilities of the data entry clerks were effectively transferred to the loan officers. Finally, Musoni realized that during rollout in urban areas security concerns in some unsafe areas would prevent loan officers from working with a tablet. Note that overall Musoni has lost only three tablets (out of 61) since starting the project, a fact which is in part attributed to a device management system that allows Musoni staff to lock down devices to prevent personal usage, which ultimately makes them less attractive to steal.

With respect to the DFA application itself, Musoni reflected that the front-end interface is perhaps the most visible and accessible, and thus one of the easier components to "get right." Minor usability issues needed to be addressed in the early versions of the mobile application, such as the need to create drop-down menus to speed up data entry and reduce the risk of errors. Additionally, Musoni realized that the mobile app needed to provide the user with an option of working in offline mode, rather than deciding this automatically based on the detected level of connectivity.

By comparison, the integration and back-end components required more expertise to implement and gave rise to several issues during user-acceptance testing which were complex to resolve. This included integration to the MIS, building the web portal, and mapping the multiple scenarios that could arise from workflow steps between an online and offline system. For example, if a loan created on the DFA was then synced to the portal and determined to require further inputs by the loan officer, the next time the loan officer synced, they needed to be alerted to the further input required. Fortunately Musoni had access to a skilled IT team with previous experience in integrating to the MIS and systems development in general. The availability of these personnel combined with an agile approach to development proved beneficial to the project. It ensured continuous monitoring and improvements throughout the development and pilot phases.

Digitization improved data capture and analysis, allowing Musoni to more efficiently produce its social performance reports for management and investors, demonstrating social as well as financial impacts.

5

Business Case

Applying the business model at Musoni provided a new framework to measure the DFA's financial benefits, such as improved customer service and important cost reductions.

The impact section above outlined the key benefits associated with the implementation of a DFA at Musoni. Now we turn to an examination of how these benefits translate into a financial case using our business model template.

DFA Costs

The first step in developing the business case is to examine the costs of implementing the solution at Musoni. We've split these costs into capital expenditures (CAPEX), which are one-time upfront costs, and operating expenditures (OPEX), which recur regularly. We have not amortized the expenses in this model; although we recognize that many financial institutions would do so, we wanted to show the full costs as they are incurred. Table 4 details the costs identified for Musoni's DFA business case, which total U.S. $97, 653.

Now that we have estimated total expenses for adopting a DFA at Musoni, we turn to revenues and costs savings.

DFA Revenues & Cost Savings

One of the key benefits to emerge from DFA adoption is the improvement in TAT for loan applications and the resultant increase in caseload per officer. Musoni estimated that 70 percent of the improvement in caseload could be attributed to the use of DFAs in the field. The resulting increase in revenue is calculated in Table 5.

Musoni also realized cost savings through DFA adoption, eliminating back-office data entry staff and reducing printing, the cost of paper, and storage needs, as summarized in Table 6.

Bringing these costs together we see a total benefit of U.S. $113,866 compared to an investment of U.S. $97,653, showing a positive return on investment (ROI) in year one of U.S. $16,213. This analysis is sensitive to a few specific assumptions, yet Musoni's results confirm a positive ROI within 12 months of DFA implementation in this case.

TABLE 4*

DFA Costs

Cost Type	Item	Description	Cost (U.S. $)
CAPEX	Implementation	Cost of implementing the platform considering both external and internal human resources. Includes organizational restructuring, process redesign, training, and system integration.	**40,000**
	Hardware	Devices for each loan officer at approximately $300/device.	**18,300**
OPEX	DFA subscription	Annual subscription based on usage (and as a percentage of overall MIS subscription), rather than an upfront license, since Musoni Systems operates on a SaaS basis.	**30,000**
	Data connectivity	For tablets to remain capable of syncing and connecting to the back office. Approximately $4/month/loan officer.	**2,928**
	Tablet insurance	Insurance charged monthly at 2% of tablet value.	**4,392**
	Tablet batteries	Replacement batteries and ad-hoc maintenance required on the tablets. Estimate of $100 per battery, which needs replacement once every three years.	**2,033**
Total Cost Year 1			**97,653**

TABLE 5*

DFA Revenues

	Pre-DFA	Post-DFA
Number of loan officers	61	61
Case load per loan officer (68% increase in total)	150	252
Additional loans/officer attributed to DFA (70% of increase)**		71
Average loan size	U.S. $500	U.S. $500
Net interest margin	4%	4%
Increase in net income as a result of the increased case load		**U.S. $86,620**

** *Average productivity increase post-DFA was measured at 68 percent. Musoni attributed this increase to multiple factors, estimating that the DFA accounted for 70 percent of the observed increase.*

TABLE 6*

DFA Cost Savings

Item	Description	Cost(U.S. $)
Salary savings	Musoni reallocated the data entry clerks from the five main computerized branches. Using a monthly salary of U.S. $400 and estimating total resources reallocated as one per branch.	24,000
Stationery production and storage	With the near elimination of paper forms, Musoni decreased its production of stationery and storage of paper forms. Using average costs of $0.05/loan for printing and $300/month for storage and presuming both are reduced by 80%.	3,246
Total cost savings		**27,246**

* *Figures in tables 4, 5, and 6 provided by the MFI*

6

Next Steps for Musoni

Having successfully transitioned to paperless operations and increased business automation, Musoni is in the early stages of identifying additional DFA functionality, including expansion to new products and advanced data analysis.

Musoni has also identified additional business activities made possible by the DFA. For example, there is now a significant quantity of digitally captured data which can be used to build credit scorecards and further automate the credit-decision process in the future.

Additionally, the activities of the credit committee meetings need to be reviewed, perhaps with a sole focus on considering higher-value or riskier loans, as more routine loans become automatically approved or rejected through the DFA while the loan officer is in the field. Musoni is also planning to customize the DFA for individual lending products, which typically requires more extensive data capture and processing and could even necessitate integration with third-party credit bureaus as part of the loan application process. Finally, as Musoni embarks on the journey toward becoming a regulated deposit-taking institution, the DFA will need to support the introduction and operations of voluntary savings accounts, which will necessitate a detailed review of strategy and business requirements.

Musoni has made much progress since the initial introduction of its DFA, improving customer service and efficiency within the organization. Building on a commitment to continuous innovation, the industry's road ahead will hopefully lead to more stories of success pushing the frontiers of digital financial service.

Musoni's CEO concludes, "We are pleased with the DFA's proven ability to enhance our commitment to 100 percent mobile financial services, offering increased efficiency and transparency in line with our mission. The DFA supports our high standard for industry innovation."

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