KfW Development Bank

»» Materials on Development Financing

No. 3, May 2016

Potential for Cost-Reducing and Efficiency-Increasing Measures in Financial Institutions

Authors: Diana Cazacu, Tatyana Dolgaya, Till Bruckner, Michael Kortenbusch

Introduction

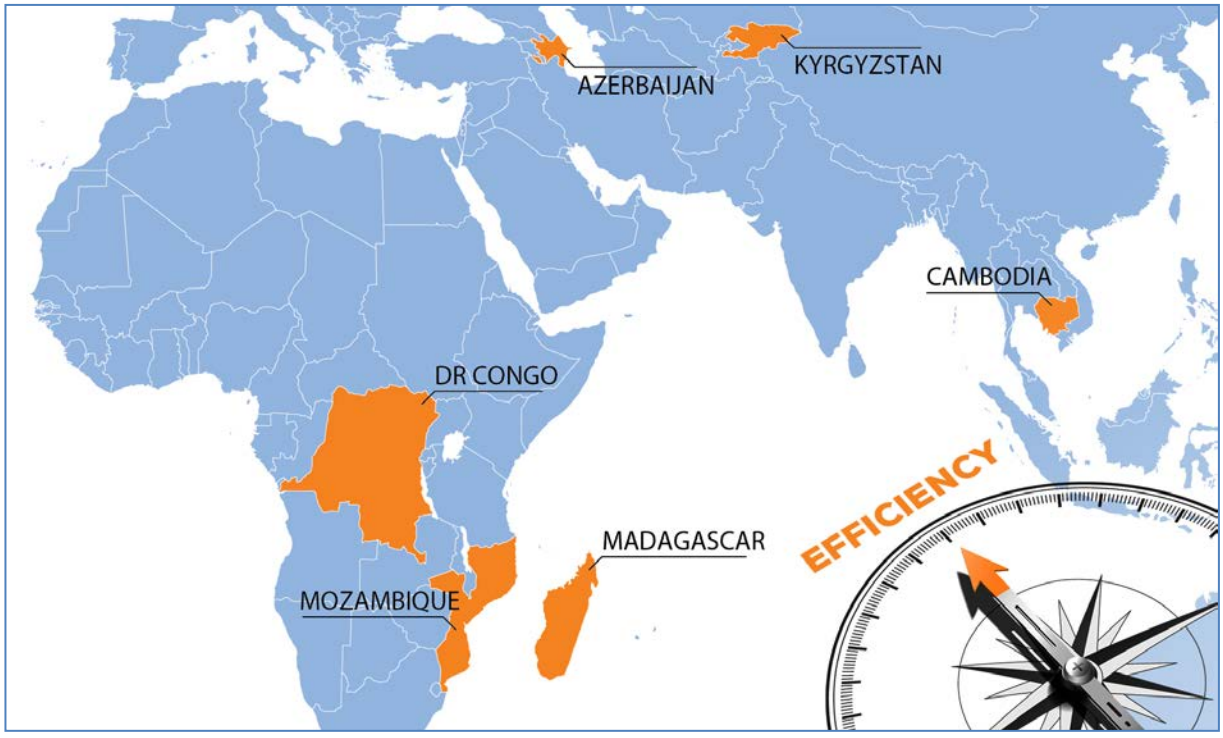
Microfinance interest rates and their determinants have been a source of controversial discussions in the development finance community. Many critics of microfinance accuse the sector of profiteering off the backs of poor clients with all-too-often higher than necessary interest rates. A 2013 CGAP study[1] on the subject showed that the percentage of borrower interest payments that went to profits dropped from one-fifth in 2004 to one-tenth in 2011; however, interest rates have remained relatively constant since 2007, even where one would expect downward pressures to lower the rates. Discussions have since moved to be centered on examining the costs of service delivery and their effects on the level of interest rates. Emerging markets have demonstrated a marked improvement in operational efficiency since 2006, and a number of developed markets have already initiated efforts to minimize their operating costs. This raises the question of how the operational expenses plateau can be overcome with efficiency gains and subsequently lead to interest rate decreases.

As a leading financier of microfinance, KfW Development Bank (KfW) supports partner financial institutions in improving operational efficiency, especially in the light of its increasing importance in helping financial institutions over the hurdle of the observed operating expenses plateau. As such, KfW commissioned a feasibility study on the potentials for cost-reducing and efficiency-increasing measures in microfinance institutions to determine what concrete measures could be implemented within the framework of German Financial Cooperation (FC). Against this background, KfW with the financial support of the German Federal Ministry for Economic Cooperation and Development (BMZ) engaged Business & Finance Consulting (BFC) in consortium with AdVision Finance to conduct this study focused specifically on efficiency of microfinance regulated institutions. The study was implemented by Diana Cazacu (Microfinance Operations Expert of Advision Finance), Tatyana Dolgaya (International MSE Lending Expert of Business and Finance Consulting (BFC)and Till Bruckner (Senior Writer of BFC).

The experts worked to obtain and convey a better understanding of operational efficiency issues within the microfinance industry by both explaining why many institutions frequently do not view efficiency concerns as a top priority and by using multiple case studies to illuminate a wide range of efficiency challenges and potential solutions. The analysis detailed in this paper builds off earlier studies by examining the issue from the practitioner's perspective and combines case studies from six commercial banks which have a strong focus on microfinance with third-party publications and the experts' own knowledge gained from working with over a hundred microfinance providers worldwide.

[1] CGAP Publication „Microcredit Rates and Their Determinants 2004-2011" (June 2013) reviews data reported by MFIs to MIX Market for the years 2004-2011 (6,043 observations).

Potential for Cost-Reducing and Efficiency-Increasing Measures in Financial Institutions



Expert Team:

Diana Cazacu (Microfinance Operations Expert / Team Leader)
Tatyana Dolgaya (International MSE Lending Expert)
Till Bruckner (Senior Writer)
Michael Kortenbusch (International MSME Lending and Strategy Expert / Backstopper)

December 30, 2015

Table of Contents

List of Cases

List of Tables

List of Figures

List of Boxes

List of acronyms and abbreviations

ABA	AccessBank Azerbaijan
ABM	AccessBank Madagascar
ADV	AdVision Finance
ATM	Automated-Teller Machine
BFC	Business & Finance Consulting
BPR	Banque Populaire Rwanda
CEO	Chief Executive Officer
CGAP	The Consultative Group to Assist the Poor
DRC	Democratic Republic of Congo
EBRD	European Bank for Reconstruction and Development
FI	Financial Institution
FY	Financial Year
KfW	The German Development Bank KfW
KYC	Know Your Customer
MFI	Microfinance Institution
NGO	Nongovernmental Organization
NPL	Nonperforming Loan
OIBM	Opportunity International Bank of Malawi
PAR	Portfolio at Risk
POS	Point of Sale
SaaS	Software-as-a-Service
SBG	Standard Bank Group
SME	Small and Medium Enterprise
USAID	U.S. Agency for International Development
USD	United States Dollar

1 Executive Summary

Microfinance, in its essence, is an industry rooted in using creative approaches to build economically viable lending models for low-income clients. Covering operating costs while making small loans to geographically spread out clients - as is the case especially for clients in the agricultural sector - with undocumented or uneven income streams remains a major challenge for the sector, driving the relatively high interest rates observed in the microfinance industry and inhibiting the scalability of many microfinance providers. In recent years, improvements in microlenders' average efficiency levels have decelerated[1], especially in mature markets, even though many banks could probably improve significantly on their current efficiency levels. Continually working on improving operational efficiency has considerable benefits for investors, lenders and borrowers:

- Only efficient microfinance providers can achieve sustainable growth.
- The more efficient the financial institutions are, the deeper the regional outreach, the outreach to underserved clients groups such as smallholders and the more diverse the range of products and services offered.
- Improving operational efficiency is a necessary, though not sufficient, precondition for achieving any significant reductions in interest rates, therefore to make credit more affordable for the poor.

By placing operational efficiency high on the agenda of microfinance and keeping it at high levels in good as well as in bad times, the microfinance community could make significant progress on achieving its goal of ensuring access to affordable finance for all. Having this in mind, this study has attempted to take a broader view of the landscape of operational efficiency improvement for microfinance with a particular focus on credit processes. Through conducting case studies of six financial institutions, and referencing efficiency-related works published by others, this report identifies a broad range of measures that can be undertaken by microfinance providers to improve the efficiency of their operations. The six commercial banks selected[2] vary strongly in terms of size, institutional history and operating environment, and so illuminate efficiency challenges across a broad spectrum of institutional cultures, maturity stages, and national contexts.

The overall analysis yielded a categorization of efficiency improvement possibilities into six areas as presented below. However, the operational efficiency should not be pursued single-mindedly or within only one of the below areas; maximizing efficiency in one area of operations may have detrimental effects on efficiency in other areas. Therefore, many times, the efficiency improvement measures cut across two or more areas of intervention.

- **Value proposition changes** refer to changing the institution's business model to serve more profitable customer segments (e.g. increasing the minimum loan size), offer less labor-intensive products (e.g. excluding agricultural lending), or exclude riskier clients (e.g. require salary income or real estate collateral). While such decisions are understandable from an efficiency angle, they may constitute mission creep for donor and social investment funded organizations. A trend of broadening business lines to include SME, or even corporate lending (in the case of ***AccessBank Azerbaijan***), was observed for all case studied banks. This was especially apparent in the case of ***Bai Tushum***, which has recently moved into the SME business and away from smaller micro-borrowers. To ensure the viability of the institution, **Socremo Mozambique's** management decided to concentrate its operations to urban and peri-urban areas and to focus on missing middle SMEs. This strategy yielded success with a return on assets of 4.8% recorded for 2014. ***FINCA DRC*** chose another approach and increased its exposure to larger borrowers with the aim of improving its profitability and cross-subsidizing its microfinance activities.

[1] CGAP (2013) *Microcredit Interest Rates and their Determinants 2004–2011* http://cgap.org/sites/default/files/Forum-Microcredit-Interest-Rates-and-Their-Determinants-June-2013_1.pdf

[2] AccessBank, Azerbaijan, AccessBank, Madagascar, ACLEDA, Cambodia, Bai Tushum, Kyrgyzstan, FINCA, Democratic Republic of Congo, Socremo, Mozambique

- **Organizational structure optimization** means redesigning the organizational structure of an institution to reduce duplication of duties, streamline reporting, clarify responsibilities, and reduce conflicting priorities and bottlenecks (e.g. separating front office and back office functions). The size, maturity and complexity of an institution determine the most beneficial type of structure and the degree of centralization for an institution. **Access Bank Madagascar** could reduce its cost to income ratio from 70% in 2011 to 62% in 2014 by reorganizing the responsibilities between front and back office staff in its branches while at the same time streamlining their processes and increasing its presence in rural areas.

- **Process optimization** involves removing steps in processes that do not add value and automating steps (e.g. eliminating paper where possible, removing duplication of tasks, and automating processes such as contract generation based on data input into computer systems). Process maps are an important tool for finding such improvement opportunities. **Standard Bank Group (SBG), South Africa** used process mapping and a business-wide scorecard as the main tools within their Six Sigma project for optimizing its retail and SME businesses, which resulted in a save of USD 65 million over a four-year time period. Among potential measures of process optimization, the centralization of certain steps in the credit process can yield significant cost savings. Credit scoring defined in the broad sense of a systemized data-driven tool for credit decisions and implemented at different degrees of automatization can also significantly improve efficiency. Risk-based credit assessment is another tool that offers substantial cost savings potential, without - when implemented carefully – having to compromise on credit quality. **Orient Express Bank in Russia** provided an example of how process improvement initiatives and centralization of credit processes led to a reduction in the ratio of operating expenses to the loan portfolio from an average of 15% to a low of 7% while at the same time enabling a quick regional expansion at much lower cost

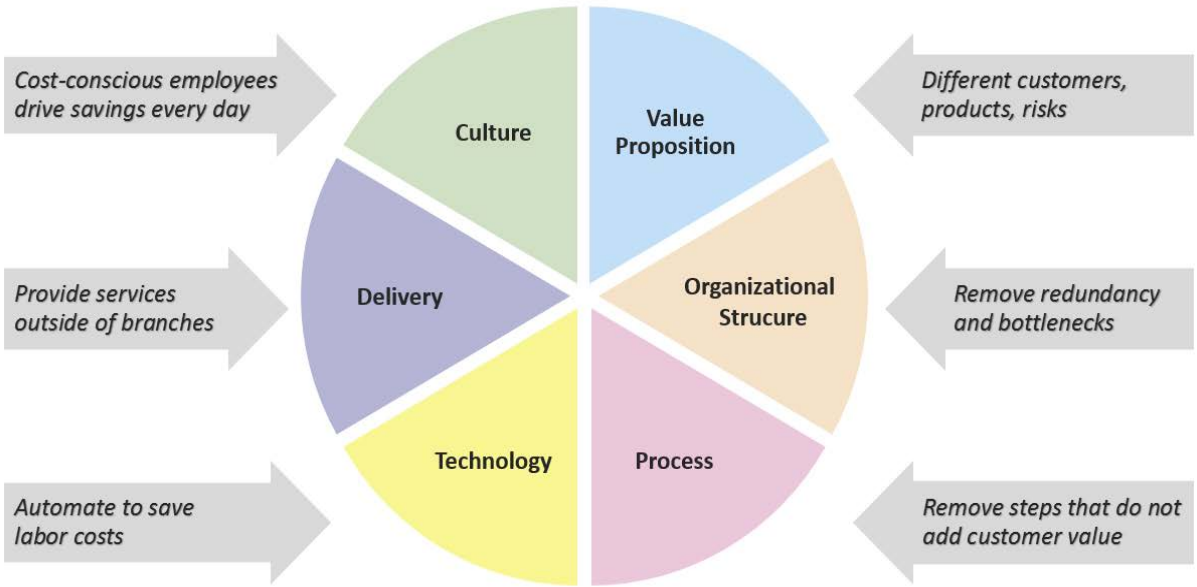
- **Technology implementation** includes a well-directed use of technology for driving customer self-service for routine transactions (e.g. through ATMs and mobile banking), expediting transactions (e.g. using biometric readers for identity verification), and reducing the workloads of back office personnel (e.g. through core banking systems and tablets for use in the field). **Access-Bank, Madagascar** demonstrated ways in which innovative approaches to agricultural value chain finance with the help of technology can be used to reach farmers in more remote areas. Furthermore, the implementation of biometric identification into **Socremo's Mozambique** processes could not only improve controls over customer identification but also increase the speed of transaction processing in the branch up to 5 minutes.

- **Alternative delivery channels** are used to reduce the cost of routine transactions by moving them outside of the branches through means such as agent banking and mobile branches (vans). Partnerships with organizations with strong physical networks (such as retailers) can also be effective in reaching a greater number of customers at a lower cost. **FINCA, Democratic Republic of Congo (DRC)** showcased how challenges with serving small clients at scale in truly difficult economic conditions can be met by implementing an agency banking model primarily for its microfinance business. By working through 500 agents, FINCA DRC could substantially increase its rural footprint and at the same time cut the cost of a single transaction by half.

- **Company culture** changes for efficiency involve empowering employees to regularly suggest and implement small improvements. Because front line employees execute business processes on a daily basis, they have an excellent vantage point from which to offer suggestions for effi-

ciency improvement, driving cost savings and increased customer value. The concepts of Kaizen[3] (continuous improvement) and Six Sigma[4] suggest concrete ways to accomplish this. **Access-Bank, Azerbaijan** provided an example of an institution that could use cultural changes to improve communication and operating efficiency. Through a cultural shift towards continuous improvement, the ***Great Western Bank, USA could reduce*** the number of steps to open a checking account from 34 to 24.

Landscape of Operational Efficiency Changes



Undertaking the proactive measures mentioned above requires careful planning, sequencing and coordination in order to improve an institution's overall efficiency in the long run. The overall aim cannot be to maximize efficiency "at all costs", but must be to get the balance right.

For example, the institutions' missions should not be sacrificed when adjusting the value propositions; organizational structures must be modified with any major changes in strategy to avoid creating redundancy and inefficiency; and process changes must be made carefully in order not to expose the institutions to additional credit and operational risks. Technology investments must be analyzed not just from a direct cost perspective, but also from their impact on other operational processes, with an eye on future needs. Issues such as potential reputation risk must be considered when entering into strategic partnerships for establishing alternative delivery channels, and company culture improvement initiatives must not interfere with employee productivity. All of the potential changes, to varying degrees, present the organization with risks from disruption, including the short-term loss in employee morale and customer satisfaction. These risks have to be kept in mind and duly managed.

[3] The Sino-Japanese word "kaizen" means "change for better". Kaizen is a continuous process, the purpose of which goes beyond productivity improvement. It is a process that, when done correctly, humanizes the workplace, eliminates overly hard work ("muri"), and teaches people how to learn to spot and eliminate waste in business processes. Successful implementation requires the participation of people at all levels of an organization, from the CEO down to janitorial staff, as well as external stakeholders when applicable.

[4] Six Sigma is a set of techniques and tools for process improvement. It was introduced by engineer Bill Smith while working at Motorola in 1986. Six Sigma seeks to improve the quality of the output of a process by identifying and removing the causes of defects and minimizing variability in manufacturing and business processes. Each Six Sigma project carried out within an organization follows a defined sequence of steps and has specific value targets, for example: reduce process cycle time, reduce costs, increase customer satisfaction, and increase profits.

Due to the risks mentioned above, organizations tend to have a natural inclination toward avoiding change if possible. For this reason, certain conditions need to be in place to motivate a microfinance institution to undergo change – conditions that add up to a notion of necessity. The mix of drivers for change within a financial institution will influence its choices regarding which efficiency categories and methods to prioritize.

The study identifies and discusses four factors that can drive lenders to address operational efficiency challenges:

- Earnings pressure
- Outreach pressure
- Escalating payroll costs
- Competition on service quality

The main driving force for change in the case study banks has been **earnings pressure**. For example, when a micro-lender transforms into a fully functioning bank and takes on new commercially minded investors in the process, the earnings pressure becomes more acute due to these investors' demands for higher profits. This happened in the case of **Bai Tushum in Kyrgyzstan** that was motivated to improve its earnings by optimizing its lending processes and centralizing some functions in the process of transformation into a full-service bank, when it took on commercial investors with higher growth and profitability expectations. An extreme form of earning pressure occurs when low or negative earnings threaten the viability of an institution, management is forced to take action to ensure institutional survival. Such existential threats usually result from unmanaged costs that increase faster than income.

Another strong motivator for change is **outreach pressure**, which occurs when inefficient operations serve as a barrier to geographical expansion, the targeting of new customer segments, or the addition of new product lines such as agricultural loans. Three of our case study banks adopted a range of innovations designed to overcome the outreach challenges generated by the specific operating environments of Madagascar, DRC, and Mozambique. For example, **AccessBank of Madagascar** used a combination of mini-branches, agricultural input and machinery supplier partnerships, and its own agricultural warehouses (for warehouse lending) to reach farmers that could not be viably reached through a standard branch model.

High costs of skilled staff can also drive efficiency improvements. A rise in labour-related costs can spur banks to seek ways to reduce staffing levels, often by simplifying, streamlining and automating processes. An analysis of the cost structures of 13 microlenders conducted by BFC and AdVision in the course of this assignment shows that staff costs typically (excluding outliers) account for between 45% and 62% of these lenders' operating expenses, with an average of 54%.

Low efficiency in banks often translates into lower **service quality** for their clients, forcing them to navigate excessive red tape, make multiple visits to branches, or endure long waiting periods. Conversely, when banks take action to improve their service quality in order to attract new clients or retain more existing ones, they frequently improve their own efficiency in the process.

Microlenders could achieve significant efficiency gains through measures identified in this report. Why then are lenders not becoming progressively and significantly more efficient? This study identified four main reasons:

- Inefficiencies can long remain hidden
- Focus on high growth
- Low cost pressure
- Weak management

When things are going exceedingly well, for example when portfolios are growing year after year as lenders expand into underserviced markets, or when they are lifted by the rising tide of an economic

boom, or when increasing economies of scale progressively reduce unit costs, i**nefficiencies** and their true costs often **remain hidden**. For example, an improvement in metrics may correctly show that a bank has become more efficient, but not show that this 'improvement' was achieved only adopting inadequate lending standards or processes that are likely to have detrimental effects – including possibly on efficiency levels themselves – in the future.

Strong institutional **growth** in and of itself tends to breed inefficiencies over time. BFC and AdVision consultants have noted in many countries that market leaders in particular often pay little attention to operational efficiency – at least while times are good. **ACLEDA Cambodia** and **AccessBank Azerbaijan** are examples of this phenomenon. Healthy earnings and limited competition over years resulted in organizational structures marked by significant duplication of duties and credit processes that needed adjustment to new dynamics of the organization and changed market environment.

In addition, lenders compete against each other less on price than on service quality, specific product features and increasingly through marketing. The market demand inelasticity and imperfect information partially shield lenders from the costs of being inefficient, as they can pass their high operational costs on to borrowers without losing market share. While microfinance monopolies have become a thing of the past, oligopolies often persist even in mature markets or market segments, reducing competitive pressures – also in terms of **cost pressure** - and the need to innovate or excel.

Also, **management** often cannot identify inefficiencies and cannot drive change. Significantly improving efficiency can be a very painful process and difficult to manage. The dynamics of low cost pressure and weak management are compounded by the delayed payoff of efficiency improvements: costs are tangible and immediate, but benefits are uncertain and in the future.

The case studies presented in this report show that a bank's history and its resulting organizational culture can play a strong role in shaping its performance and motivations. Also, there is no universal pattern of inefficiencies that is repeated across all banks, pointing to the need for efficiency interventions that are tailored to individual institution's needs. Finally, improving efficiency is a never-ending task. Improving efficiency means continually adapting an institution to ever-evolving internal and external environments.

Despite the fact that operating costs are a major component of the interest rates paid by clients of microfinance institutions, operational efficiency only raised more interest in the industry after the global financial crisis of 2008. The microfinance industry, along with other financial institutions, suffered from growth in non-performing loans, a drop in earnings, and a loss of investor appetite from abroad, which finally forced some of them to start rethinking their operating models. Today, as the global financial sector stabilizes, the notion of change is declining in intensity. While competition and environmental factors will continue to provide some incentive for financial institutions' management to change, it will be up to investors, boards of directors, and other stakeholders to provide additional motivation for efficiency improvement. To do this, all stakeholders involved need a framework to measure efficiency which is not purely based on simple numerical ratios, but is balanced with assessments of process efficiency, organizational effectiveness and other more qualitative type of indicators. Only with the holistic approach of identifying and approaching inefficiencies along the lines presented in this report can the mission of microfinance be achieved in a sustainable manner.

2 Study Aims and Methodology

Background

As one of the leading financiers of microfinance, KfW is interested in supporting its partner financial institutions to improve the efficiency of their operations. Given the increasing operational maturity of KfW's partner institutions and the continuous ambition to achieve access to affordable finance for all, efficiency increasing measures gain importance. Against this background, KfW with the financial support of the German Federal Ministry for Economic Cooperation and Development (BMZ) engaged Business & Finance Consulting (BFC) in consortium with AdVision Finance to conduct a study focused specifically on efficiency. The study was implemented by Diana Cazacu (AdVision Finance), Tatyana Dolgaya (BFC) and Till Bruckner (BFC).

Aims

This study aims to contribute to the understanding of operational efficiency issues within the microfinance industry.[5] Most past research has focused on either empirical analysis of large sets of financial institutions' performance data, or narrowly discussed specific efficiency topics such as alternative delivery channels. Our study builds upon these earlier efforts by looking at operational efficiency in microfinance institutions from a practitioner perspective, focusing on credit processes in particular.

What is new about this study?

This study adds to the emerging literature in two ways:

- It explains why institutions often do not seem to consider efficiency a top priority
- It uses multiple case studies to illustrate a wide range of efficiency challenges and solutions

Methodology

This study combines insights gained from the following sources:

- Case studies of six commercial banks engaged in microfinance
- Third party publications[6]
- In-house knowledge acquired by BFC and AdVision staff in the course of working with over a hundred different microfinance providers worldwide

Case study selection

To narrow the scope of analysis, only institutions with full banking licenses and a strong focus on microfinance[7] (in most cases former nonprofit microfinance institutions) were chosen as case studies. This decision was due to the research team's observation that seeking a banking license is a natural step in the evolution of a lending institution, as it enables it to diversify and stabilize its funding base. Also, obtaining a banking license necessitates an escalation in operational complexity, causing an increase in costs and creating more opportunities for operational efficiency improvements.

[5] There is no universally accepted definition of microfinance. In the Caucasus and Central Asia regions, the term is frequently applied to loans of up to USD 10,000, while in Asia and Africa micro loans typically range only up to USD 2,000.

[6] Seven studies on the effects of technology implementations (credit scoring, cloud software systems, etc.), seven studies on alternative delivery channels (banks on wheels, value chain finance, etc.), and 15 empirical analysis studies (primarily focusing on correlations between efficiency ratios and factors such as registration type and loan size) have been referenced, plus 13 other studies and articles covering process improvement and other subjects. A summary of the studies consulted is presented in Annex 3.

[7] Most of our six case study banks were originally nonprofit microfinance institutions targeting only the bottom end of the market. Today, many have grown their assets significantly by expanding into other business line, such as consumer lending, SME loans, and corporate finance, so the share of their overall lending portfolios currently devoted to microfinance varies widely.

Six case study banks

The following six institutions were chosen as case studies:

- AccessBank, Azerbaijan
- AccessBank, Madagascar
- ACLEDA, Cambodia
- Bai Tushum, Kyrgyzstan
- FINCA, Democratic Republic of Congo
- Socremo, Mozambique

Using case study data

The consultants analyzed the financial statements of each of these institutions, utilized customized questionnaires to gather additional information about the operations of each, interviewed branch staff and observed credit processes. [8] Case study reports were written for each of the institutions, and used in conjunction with desk research to inform the analysis presented within this report.

Annex 2 provides more details on these six institutions and their national contexts.

[8] Bai Tushum was not visited for the purpose of this study due to the presence of BFC staff onsite for an unrelated ongoing project. Information about Bai Tushum's operations, including organizational setup and the credit process, was collected through BFC team members working with the institution.

3 Understanding Operational Efficiency

This section argues that operational efficiency should be a continuous priority because it is a precondition for sustainable institutional growth and for the further broadening and deepening of financial inclusion.

Operational efficiency definition

For the purposes of this study, operational efficiency is defined as the capability of an institution to deliver products and/or services to its customers in the most cost-effective manner possible while ensuring that the quality of its products, services and processes remain high. The reduced internal costs that result from improved operational efficiency can enable an institution to strengthen its market position and/or extend its services to additional, otherwise unprofitable target groups and regions, and/or achieve higher profit margins or lower prices.

Operational efficiency as perennial challenge

The history of microfinance is the history of developing financial institutions that are efficient enough to service marginal clients. Lending small amounts to large numbers of borrowers in challenging circumstances and then recovering the money lent is inherently expensive. From its earliest days, the key challenge of the sector has been to develop ways to extend small loans to poor and often geographically dispersed clients with undocumented or uneven income streams while covering operating costs. The available data strongly suggests that the emergence of for-profit "second generation" microfinance and the maturing of markets have done little to tackle this challenge. Supporting this statement, a CGAP study published in 2013 found that in recent years, improvements in microlenders' average efficiency levels have decelerated, especially in mature markets.[9]

Past neglect of operational (in)efficiency

Operational (in)efficiency has historically not been a major focus of research in the sector. Most discussions and studies have instead tended to revolve around issues of credit quality and portfolio growth. Only in the years following the global financial crisis of 2008, when the microfinance industry along with the financial industry as a whole was shocked by sharp declines in asset quality and decreased availability of inexpensive funding, did the topic of efficiency (or doing more with fewer resources) finally gain more interest. Today, as the world recovers from the global financial crisis and microfinance portfolios resume growth, investors and financial institutions may let efficiency concerns fade off their agendas once again as they refocus on other opportunities and concerns. That would be a grave mistake.

Potential for improvement

The case studies discussed in this report indicate that most banks could probably improve significantly on their current efficiency levels. Our consultants' many years of experience in the field equally suggest that there is significant potential for implementing cost-reducing and efficiency-increasing measures in many financial institutions without compromising portfolio quality or customer service.

Box 1. How microlenders' growth trajectories can breed inefficiencies

Most financial institutions working in the realm of microfinance start out as simple organizations offering a limited range of products. The operations of such (usually small) organizations tend to be efficient, with a limited number of functions, straightforward reporting lines, and lean management structures. The operating costs for these institutions are driven by the costs of personnel dedicated to lending and by geographic outreach challenges, especially for institutions working in rural areas and with agricultural clients. As the institutions grow in size, they inevitably add more products to leverage their existing customer ba-

[9] CGAP (2013) *Microcredit Interest Rates and their Determinants 2004–2011* http://cgap.org/sites/default/files/Forum-Microcredit-Interest-Rates-and-Their-Determinants-June-2013_1.pdf

ses and expand geographically to reach new clients. This creates the need for greater organizational complexity and drives growth in operating costs from sources such as non-lending staff members and information technology infrastructure. An analysis of the cost structures of 13 microlenders conducted by BFC and AdVision in the course of this assignment shows that staff costs typically (excluding outliers) account for between 45% and 62% of these lenders' operating expenses, with an average of 54%.

Note that this is a rather universal trend in business lifecycles – startups tend to enjoy simple, lean structures allowing for agile development and rapid response to customer feedback, while larger organizations require escalating levels of "synchronization and coordination overhead" to address the complexity of multiple departments.[10]

Benefits of focusing on efficiency

The microfinance industry needs to place operational efficiency high on its agenda and make sure it stays there, in good times as well as in bad times. Efficiency is important at any stage of a financial institution's lifecycle, and at any stage of the macroeconomic cycle, hence it should be a continuous priority. Past experience suggests that investors, lenders and borrowers all benefit if preventive action is taken at an early stage, before a crisis brings hidden efficiency problems into the open and forces radical corrective action.

Continually working to improve operational efficiency has considerable benefits for investors, lenders and borrowers:

- Only efficient microfinance providers can achieve sustainable growth
- The more efficient the financial institutions are, the deeper the regional outreach to underserved clients groups such as smallholders and the more diverse the range of products and services offered
- Improving operational efficiency is a necessary, though not sufficient, precondition for achieving any significant reductions in interest rates, therefore to make credit more affordable for the poor

Efficiency is a precondition for sustainable institutional growth

In the years leading up to the global financial crisis, many microfinance institutions experienced rapid growth. In this context, portfolio performance indicators often remained excellent, hiding deeper seated structural problems. When the crisis hit, it soon became apparent that some of the boats lifted by the rising economic tide were actually leaking money at an astonishingly high rate. The dominant focus on pursuing rapid growth had often relegated efficiency considerations to a back seat, and once the tide turned, many banks found that they could no longer cover their high operational costs.

Many banks reacted by going to the other extreme. They hastily implemented radical cost cutting measures that negatively affected other aspects of their operations, or they cut back the scale and scope of their services, achieving short-term cost reductions but compromising their longer-term potential for growth. Other banks secured additional external funding to keep the boat afloat, a temporary measure that left the underlying inefficiencies untouched. Investors and banks need to pay continuous and consistent attention to operational efficiency, in good years and in bad years, to ensure that such harmful dynamics give way to trajectories of healthy, long-term, sustainable institutional growth.

Efficiency is a precondition for broadening and deepening financial inclusion

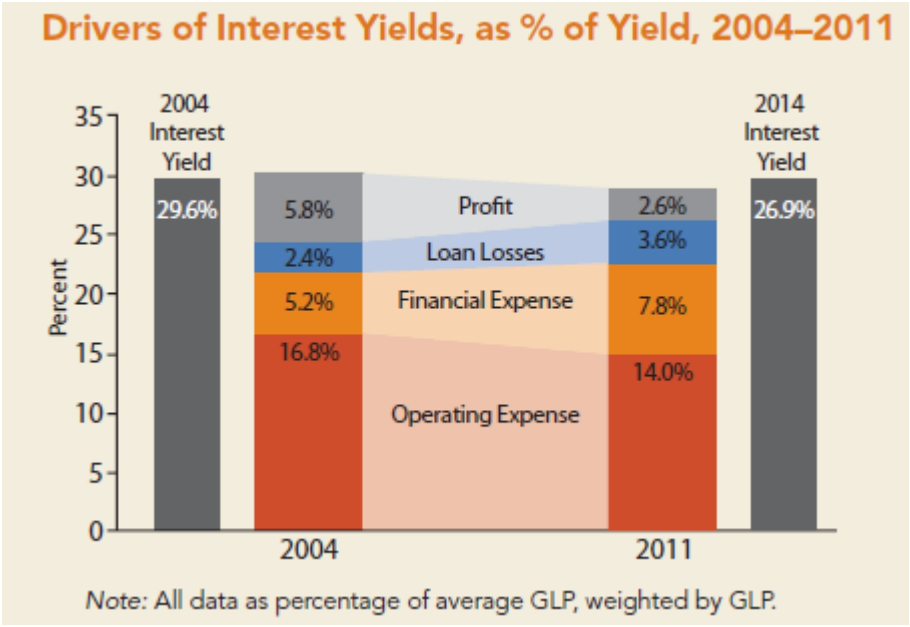
Microfinance has done an amazing job at giving millions of poor people around the world access to formal financial services. Now that many markets have matured, most low hanging fruit has been picked. At the same time, hundreds of millions of people around the world, most of them living in rural areas, still lack access to formal financial services. Many others have only access to a narrow range of services; for example, they may not be able to open savings accounts. Banks will only be able to deliver a broader range of products and services, increase their rural presence and deepen their outreach to underserved client groups, e.g. smallholders, if they keep reducing their operating costs.

[10] Sitepoint (2014) *Risks When Growing your Business* http://sitepoint.com/3-risks-growing-business/

Efficiency may help to make credit more affordable for the poor

While there is no academic consensus on the drivers of microfinance interest rates, the 2013 CGAP study (see also above) pointed out that over half of the average 27% in annual interest paid by microfinance clients goes towards covering lending institutions' operating expenses. Operating expenses are a stronger driver of high interest rates than the cost of capital, loan losses, and institutions' profit combined, as the chart below illustrates.[11]

Figure 1. Drivers of interest yields according to CGAP



Source: CGAP (2013) Microcredit Interest Rates and their Determinants 2004–2011, page 21

Gains in efficiency do not automatically lead to corresponding reductions in interest rates, as the box below explains. However, CGAP's study does show that improving operational efficiency is a necessary, though not sufficient, precondition for achieving any significant reductions in interest rates. In other words, finding ways for microfinance institutions to operate more efficiently is paramount to promoting access to affordable finance.

Box 2. Why lower costs do not directly translate into lower interest rates

There is sometimes an unrealistic expectation from donors that lower costs should immediately, directly and proportionally translate into lower interest rates. This is because socially motivated donors naturally want to see the client benefit first. However, reality often looks different:

- *Banks typically need to make up front investments in order to improve their efficiency. Thus, initial efficiency-related savings are often used to recoup the initial investment outlay, rather than getting immediately passed on to clients.*
- *Cost reductions give banks the option of lowering prices, but banks will only pursue this option if it furthers their broader social and/or commercial aims. If banks see no compelling reason to lower prices (for example, in order to increase their market share) they will not do so.*
- *Cost reductions at financial institutions often go along with improvements of customer experience by increasing the speed of service or through lowering requirements for documentation or collateral. As clients make their choices based on several criteria, improving service quality alone may be sufficient for a bank to keep growing, leaving little or no incentives to lower interest rates.*

[11] CGAP (2013) *Microcredit Interest Rates and their Determinants 2004–2011* http://cgap.org/sites/default/files/Forum-Microcredit-Interest-Rates-and-Their-Determinants-June-2013_1.pdf

4 Efficiency Improvement: Brakes versus Drivers

This section explores why efficiency trends in the industry have often been disappointing, and discusses the various factors acting as brakes or drivers for efficiency improvements.

4.1 Factors Slowing Efficiency Improvements (Brakes)

Explaining limited efficiency gains

The previous section discussed recent research showing that in recent years, improvements in microlenders' average efficiency levels have decelerated, especially in mature markets.[12] Concurrently, the consultants found that many microlenders could achieve significant efficiency gains. Why are lenders not becoming progressively and significantly more efficient, as standard economic theory suggests they should? This section identifies and discusses four key contributing factors:

- Inefficiencies can long remain hidden
- Focus on high growth
- Low cost pressure
- Weak management

➢ **Inefficiencies can long remain hidden**

When things are going exceedingly well, for example when portfolios are growing year after year as lenders expand into underserviced markets, or when they are lifted by the rising tide of an economic boom, or when increasing economies of scale progressively reduce unit costs, inefficiencies and their true costs often remain hidden. Later, when the tide turns, hard-hit institutions sometimes implement drastic and ill-designed anti-crisis measures within short time frames; usually, these could have been avoided through early intervention. Also, relative metrics that could potentially be used for inter-lender comparison are not well developed (see *Section 4.3 Measuring efficiency* below for further discussion). Thus, institutions and their stakeholders routinely compare how they perform in terms of portfolio growth or portfolio at risk, but not in terms of efficiency. The 2013 CGAP paper, along with other literature[13], shows that researchers are now taking first steps towards overcoming this information gap.

➢ **Focus on high growth**

As the previous section argued, strong institutional growth in and of itself tends to breed inefficiencies over time. In addition, the industry has long tended to prioritize achieving strong portfolio growth over improving internal efficiency. Interestingly and somewhat counter-intuitively, the most profitable lenders are often also the least efficient ones, as their current profitability is often due to their successful entry at an early market stage or a peak in their growth stage. BFC and AdVision consultants have noted in many countries that market leaders in particular often pay little attention to operational efficiency – at least while times are good.

➢ **Low cost pressure**

Microfinance retail markets are imperfect. In practice, clients rarely shop around, and even if they do so, they often struggle to effectively determine and compare prices. Even in mature markets, lenders compete against each other less on price than on service quality, specific product features and increasingly through marketing. Such demand inelasticity and imperfect information partially shield lenders from the costs of being inefficient, as they can pass their high operational costs on to borrowers without losing market share. While microfinance monopolies have become a thing of the past, oligopolies often persist even in mature markets or market segments, reducing competitive pressures and the need to innovate or excel. Also, historically, costs were never an issue as long as nonprofit microfinance institutions were self-sustainable. Plus, many banks can still access subsi-

[12] CGAP (2013) *Microcredit Interest Rates and their Determinants 2004–2011* http://cgap.org/sites/default/files/Forum-Microcredit-Interest-Rates-and-Their-Determinants-June-2013_1.pdf

[13] Annex 3. Summary of Studies Consulted for this Report, "Empirical Analysis and Academic Studies"

dized funding for on-lending; the literature suggests that the provision of any kind of subsidies is positively correlated to lower efficiency levels. All this adds up to low cost pressure on financial institutions.

- **Weak management**

  Organizations of all kinds tend to have a natural inclination toward avoiding change unless and until countervailing pressures force them to do so. Management often cannot identify inefficiencies and cannot drive change. Significantly improving efficiency can be a very painful process and difficult to manage. For example, it may involve reducing the number of staff, and require people to adapt to ways of doing things. In addition, not all institutions have internal capacity to manage change projects; after the first painful one, they tend to avoid further change projects. These dynamics are compounded by the delayed payoff of efficiency improvements: costs are tangible and immediate, but benefits are uncertain and in the future.

4.2 Factors Driving Efficiency Improvements (Drivers)

Despite the factors discussed above, microfinance institutions (including some of our case studies) on many occasions do seek to improve their efficiency, and often succeed in doing so. This section discusses the main factors and forces that can drive lenders into action and spur them to address operational efficiency challenges:

- Earnings pressure
- Outreach pressure
- Escalating payroll costs
- Competition on service quality

- **Earnings pressure**

  The main driving force for change in the case study banks has been earnings pressure. For example, when a micro-lender transforms into a fully functioning bank and takes on new commercially minded investors in the process, the earnings pressure becomes more acute due to these investors' demands for higher profits. This happened in the case of Bai Tushum in Kyrgyzstan that was motivated to improve its earnings by optimizing its lending processes and centralizing some functions in the process of transformation into a full-service bank, when it took on commercial investors with higher growth and profitability expectations. An extreme form of earning pressure occurs when low or negative earnings threaten the viability of an institution, management is forced to take action to ensure institutional survival. One of our case studies, Socremo in Mozambique illustrates this dynamic well. A new management team undertook drastic cost cutting and process optimization measures resulting in substantial cost reductions and increased profitably in less than a two-year time period. Such existential threats usually appear as the result of unmanaged costs that increase faster than the increase in income.

- **Outreach pressure**

  Another strong motivator for change is outreach pressure, which occurs when inefficient operations serve as a barrier to geographical expansion, the targeting of new customer segments, or the addition of new product lines such as agricultural loans. Three of our case study banks adopted a range of innovations designed to overcome the outreach challenges generated by the specific operating environments of Madagascar, DRC, and Mozambique (see further below for more details).

- **Escalating payroll costs**

  High costs of skilled staff can also drive efficiency improvements. In boom phases, lenders in many markets discover that the limited availability of skilled staff can act as a brake on institutional growth in general, and on regional expansion outside major urban areas in particular. Consequently, salaries in the sector can rise significantly as lenders compete for a limited pool of qualified staff. As a result, labour-related costs can steeply rise, spurring banks to seek ways to reduce staffing levels,

often by simplifying, streamlining and automating processes. As mentioned above, our consultants found that human resource expenditures typically account for over half of microlenders' operational costs.

- **Competition on service quality**
  As previously noted, low efficiency in banks often translates into lower service quality for their clients, forcing them to navigate excessive red tape, make multiple visits to branches, or endure long waiting periods. Conversely, when banks take action to improve their service quality in order to attract new clients or retain more existing ones, they frequently improve their own efficiency in the process.

4.3 Measuring Efficiency

The preceding section emphasized that low efficiency often remains hidden within banks. So far, the industry has not developed universally accepted standard metrics enabling investors and banks to assess an individual institution's performance in this regard. Making meaningful comparisons of performance across different institutions or national contexts is even harder, as differences in target client profiles (for example, urban versus rural) make the use of quantitative indicators for comparative purposes extremely problematic.

Commonly used efficiency metrics

Commonly used efficiency metrics in the microfinance industry include the following:

- Cost to loan portfolio
- Cost/income ratio
- Borrowers per loan officer
- Borrowers per branch
- Cost per loan[14]

Efficiency metrics in our six case study banks

The efficiency ratios of the six banks chosen as case studies show that quantifying and comparing efficiency levels can be extremely challenging. For example, cost to loan portfolio ratios in our case studies range from 9.5% to 39%. Also, within the same bank, some efficiency metrics may go up while others simultaneously go down. For example, the number of borrowers per loan officer in Socremo significantly declined during 2010–2014, while during the same time period, all other efficiency indicators improved. This improvement of efficiency indicators was due to the increase in average loan size but not necessarily due to the improve of operational processes efficiency or reduction in cost. An institution's operational efficiency metrics always need to be viewed and interpreted in conjunction with its internal workings and the external operating context.

[14] CGAP/WB (2009) *Measuring Results of Microfinance Institutions: Minimum indicators that donors and investors should track*, Technical Guide https://cgap.org/sites/default/files/CGAP-Technical-Guide-Measuring-Results-of-Microfinance-Institutions-Minimum-Indicators-That-Donors-and-Investors-Should-Track-Jul-2009.pdf

Table 1. Efficiency ratios of the case study banks

Indicators	AccessBank, Azerbaijan	AccessBank, Madagascar	ACLEDA, Cambodia	Bai Tushum, Kyrgyzstan	FINCA, DRC	Socremo, Mozambique
Cost to Loan Portfolio, 2014	9.5%	24%	6.0%	12.0%	39%	27%
Cost to Loan Portfolio, 2010	9.0%	26%	9.5%	11.0%	50%	41%
Δ Cost to Loan Portfolio	**0.5%**	**-2%**	**-2.5%**	**1%**	**-11%**	**-14%**
Cost/Income ratio, 2014	59%	62%	52%	68%	81%	55%
Cost/Income ratio, 2010	56%	75%	65%	53%	83%	84%
Δ Cost/Income ratio,	**3%**	**-13%**	**-13%**	**15%**	**-2%**	**-29%**
Borrowers per loan officer, 2014	231	111	191	144	338	89
Borrowers per loan officer, 2010	304	95	175	287	264	98
Δ Borrowers per loan officer	**-24%**	**17%**	**9%**	**-50%**	**28%**	**-9%**
Borrowers per branch, 2014	3,627	1,495	1,449	437	7,473	928
Borrowers per branch, 2010	4,286	1,312	1,136	569	7,742 (2011)	895
Δ Borrowers per branch	**-15%**	**14%**	**28%**	**-23%**	**-3%**	**4%**

Legend: Green = Improved; Red = Worsened

Limitations of efficiency indicators

As the table above shows, measuring efficiency is a challenge. For example, the efficiency data above does not allow conclusions about the following:

- *Comparative performance of banks operating in very different contexts.* For example, in terms of cost to loan portfolio, AccessBank Azerbaijan very strongly outperforms FINCA DRC, with 9.5% versus 39%. But this difference could simply be due to AccessBank's larger average loan sizes and/or Azerbaijan's higher population density and/or dozens of other factors. On the other hand, FINCA DRC's borrowers per loan officer and per branch in 2014 outperforms the same of AccessBank Azerbaijan. This is due to the different product range that the two institutions provide: FINCA DRC's high loan officer and branch productivity is due to the group lending methodology while AccessBank Azerbaijan's branches are cross-selling a much more diverse range of products: individual loans, accounts, payments.
- *Relative versus absolute improvements.* Documented changes may simply represent improvements from a very low baseline, possibly leaving institutions less inefficient but nonetheless still inefficient. For example, the 2010 data for FINCA DRC and Socremo Mozambique marks low points in their performance over recent years.
- *Hidden tradeoffs.* For example, an improvement in metrics may correctly show that a bank has become more efficient, but not show that this 'improvement' was achieved only adopting inadequate lending standards or processes that are likely to have detrimental effects – including possibly on efficiency levels themselves – in the future.
- *Context-related drivers.* Changes in the strategies or mandates of lenders (e.g. change of focus to a higher income market segment) or changes to laws and regulations (e.g. interest rate caps or increase in capital requirements) can have a strong effect on some indicators, even as institutional efficiency as such may remain constant.
- *Appropriateness of interest rates charged.* The data does not allow conclusions about whether loans are fairly priced, i.e. whether they adequately balance costs, risks, profits and social aims.

Potential uses of efficiency metrics

Despite their limitations, efficiency metrics do have analytical value. For example, they can illuminate historical trends within one institution, or allow comparison between different players operating within a given market. However, these quantitative indicators (see Annex 2) should be used in conjunction with qualitative indicators covering process efficiency, customer service quality, the effectiveness of organizational structure, staff motivation. There is a clear and urgent need for further research into how to best (and most meaningfully) measure and compare efficiency levels in the microfinance industry.

5 Introducing the Six Case Study Banks

This section introduces the six banks chosen as case studies. It includes brief profiles of the individual banks, the factors driving the efficiency of their operations and a discussion of crosscutting observations and themes.

5.1 Profiles of the Six Case Study Banks

Table 2. Case Studies Conducted

Bank	Key Figures (2014)	Key Case Study Themes
AccessBank, Azerbaijan	• 44 branches • USD 1.3 billion in assets • USD 4,099 average loan size	• Market leader with few efficiency incentives • Organizational structure needs improvement • Expensive IT systems drive up operational costs
AccessBank, Madagascar	• 26 branches • USD 45 million in assets • USD 1,042 average loan size	• Expenses increasing at a slower pace than loan volume • Alternative delivery channels for more efficient agriculture finance
ACLEDA, Cambodia	• 252 branches • USD 3 billion in assets • USD 5,440 average loan size	• Market leader with few efficiency incentives • Competition driving down margins, encouraging efficiency • Decentralized operating model driving operational efficiency down
Bai Tushum, Kyrgyzstan	• 17 branches • USD 135 million in assets • USD 3,010 average loan size	• Recent MFI to bank conversion • Efficiency improvements driven by low earnings, pressure from investors • Successful process reengineering
FINCA, Democratic Republic of Congo	• 18 branches • USD 73 million in assets • USD 476 average loan size	• Successful use of agency banking (alternative delivery method) for scale and lower operating expenses • Operations improved by FINCA network six sigma training • Expansion to SME to boost profits
Socremo, Mozambique	• 14 branches • USD 39 million in assets • USD 1,996 average loan size	• Leveraging partnerships to reduce costs and capital investment needs • Infrastructure may not be keeping up with growth

AccessBank, Azerbaijan

AccessBank Azerbaijan is the leading micro-lender in its home country. Founded in 2002 as Access Holding global network member, it has USD 1.3 billion in assets, and over two thousand employees. With a client base consisting mainly of microenterprises and SMEs, it serves over 150,000 borrowers. Agricultural businesses account for about half of the bank's clients. In Azerbaijan, the domestic credit to GDP ratio is 34%. According to Mix Market, market interest rates are below 15%.

AccessBank, Madagascar

Member of Access Holding global network, AccessBank Madagascar was founded in 2006 and reported USD 45 million in assets in 2014. Its 670 employees serve 31,000 borrowers and 148,000 depositors, mainly as urban and SME clients. AccessBank is a strong, but not dominant, player in the microfinance market of Madagascar, with a market share of 19% of microloans. It sought to overcome difficulties in scaling up through a combination of mini-branches, agricultural input and machinery supplier partnerships, and setting up its own agricultural warehouses to enable warehouse lending. In Madagascar, the domestic credit to GDP ratio is only 17%. According to Mix Market, market interest rates are above 26%.

ACLEDA, Cambodia

Founded in 1993, ACLEDA has grown out from MFI origins to become the largest bank in Cambodia, with USD 3 billion in assets. It has 11,000 employees and 367,000 borrowers. In Cambodia, the domestic credit to GDP ratio is an astonishingly high 47%. According to Mix Market, market interest rates are 14%.

Bai Tushum, Kyrgyzstan

Bai Tushum was founded in 2000 and has reported USD 135 million in assets in 2014, making it the seventh largest bank in Kyrgyzstan. Bai Tushum focuses on livestock micro-financing and is currently expanding into SME lending. Its 800 employees serve 29,000 borrowers. In Kyrgyzstan, the domestic credit to GDP ratio is just 16%. According to Mix Market, market interest rates are a very low 12%.

FINCA, Democratic Republic of Congo

Even though it has only USD 73 million in assets, FINCA is the second largest microlender in the Democratic Republic of Congo, with just under 800 employees plus 500 agents jointly serving 127,000 borrowers which represent 50% of DRC's micro-borrowers and nearly all of them fall into the micro segment. The average loan size is just USD 476, by far the lowest among our six case studies. In the Congo, the domestic credit to GDP ratio is extremely low, not even 9%. According to Mix Market, market interest rates are 27%.

Socremo, Mozambique

Socremo is one of just two microfinance providers in Mozambique. Even so, its assets are only USD 39 million. Nationwide, 366 staff in just 14 branches serve 13,000 borrowers. In Mozambique, the domestic credit to GDP ratio is 36%. According to Mix Market, market interest rates are 35%, the highest among our six sample countries.

Annex 2 consolidates the background data on the six banks and their operating environments.

5.2 Efficiency Drivers in the Six Banks

Each of the six case study banks had different motivating factors that drove the management decisions to improve the operational efficiency. This section presents these triggering factors and the concrete actions taken by each bank to improve efficiency.

AccessBank, Azerbaijan

As the market leader, AccessBank for many years enjoyed healthy profits and strong growth in an environment with little competition, limiting incentives for change. Due to the difficult economic environment caused by the decline in oil prices leading to the devaluation of the local currency twice in 2015, the institution has become more interested in tackling efficiency issues. The consultants also discovered that the bank could leverage cultural changes to improve its communications and operating efficiency.

Case 1. Service quality pressure at AccessBank, Azerbaijan

AccessBank of Azerbaijan (ABA) essentially pioneered the microfinance industry in its home country and maintains a dominant market position in the industry, allowing it to maintain labor intensive credit processes with very low non-performing loan ratios (PAR 30 of 0.8% in 2014), but relatively high interest rates (20.7% loan portfolio yield in 2014 and 2013). ABA has not felt pressure on its earnings from competitive developments, ending 2014 with a healthy 4.1% return on assets, and has thus not felt the need to modify its processes. ABA's credit process is arduous, with site visits required for repeat loans, significant time spent on manually completing evaluation forms, and branch-level personnel dedicated to data entry. In addition, ABA's organisational structure has not yet reached the effectiveness and efficiency level required for the institutional growth experienced in the last three years. Ad-hoc functions were added and accepted by some individual managers as a reaction to the bank's needs rather than as a strategic change.

While ABA has not made much effort in improving its operational efficiency due to lack of motivating factors, competition has driven it to implement several customer-facing technologies that improve efficiency through providing customers with self-service options. For example, ABA has recently launched internet banking services in order to attract and retain deposit customers, as well as improve the service quality for the bank's customers.

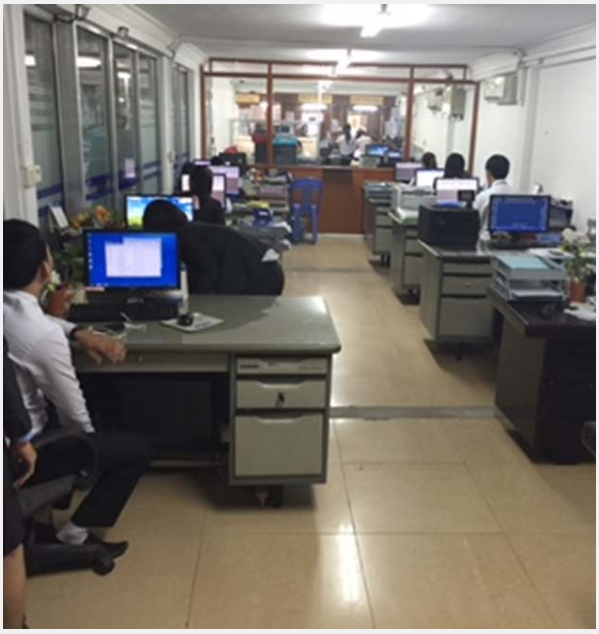
ACLEDA, Cambodia

ACLEDA has long been a market leader with few efficiency incentives, and its organic growth over many years has resulted in significant duplication of duties in its organizational structure as well as sometimes cumbersome processes. However, competition is beginning to drive down margins, motivating it to pursue greater efficiency. Also, national regulations requiring high levels of liquid assets (a profitability constraint) create an incentive for more efficient operations.

Case 2. Pricing pressure at ACLEDA, Cambodia

ACLEDA, the largest bank and the leading microfinance provider in Cambodia, had its start as a microfinance institution and essentially created the industry in the country. Accordingly, ACLEDA enjoyed a long period of time without significant competition, which gave the bank the ability to scale up while maintaining very high credit quality. A dearth of qualified banking personnel in Cambodia, while creating a difficulty for ACLEDA in the beginning, eventually produced a barrier to entry for others. (ACLEDA eventually opened a robust standalone training center for new banking personnel, which is now transforming into a full university.)

Given the lack of efficiency incentives, ACLEDA has maintained a labor intensive, extra-cautious credit culture that keeps NPLs very low (PAR 90 only crossed 0.5% once since 2010). The credit process, as it stands today, requires field visits to each customer regardless of prior borrowing history (with some exceptions), and the completion of a multitude of credit analysis forms, including complicated ratios and descriptions. All forms are completed on paper and branch level accounting personnel (up to 12 accountants per branch, as shown in the photo to the left) enter information from paper forms into the software system. Due to literacy issues among ACLEDA's microfinance clientele, all application materials must be completed by the loan officers, though management conceded that each borrowing family typically has at least one literate family member from a younger generation.



In recent years a new set of non-bank microfinance providers entered the Cambodian market and began to exert competitive pressure on interest rates, driving them down along with the margins for banks like ACLEDA (loan portfolio yield declined steadily to 13.1% in 2014 from 15.8% in 2010). As a result, ACLEDA's net interest margin fell from 11.7% in 2013 to 9.9% in 2014, driving the return on assets down to 2.7% from a healthier 3.4% the previous year. ACLEDA has also begun to feel pressure in terms of competition for employees and higher salaries (in part due to national minimum wage increases). As a result, ACLEDA has become open to improving its operating model, including potential simplification of credit forms and automation of some paper-based processes.

Bai Tushum, Kyrgyzstan

The recent process of transformation into a full-service bank led to an explosion of costs without an immediate commensurate growth in income. At the same time, Bai Tushum took on commercial investors whose higher growth and profitability expectations created earnings pressure, motivating it to centralize some functions, making it standing out among the six institutions analyzed for this study that was proactively reorganizing to cut costs. Bai Tushum also is a showcase for how major lending process improvement initiatives can reduce costs and improve efficiency.

Case 3. Earnings pressure at Bai Tushum, Kyrgyzstan

Owing its roots to a donor-supported livestock micro-financing initiative, Bai Tushum is the now seventh largest bank in Kyrgyzstan. By diversifying its product line through moving into traditional micro-lending, and later small and medium business (SME) lending, Bai Tushum has been able to achieve strong asset growth, but its earnings began to suffer in 2012, when return on assets dropped to 0.8% in 2012 from 4.4% in 2010, largely due to a shrinking net interest margin, which dropped from 19% to 15% over the same time period.

In response to this development, Bai Tushum chose to take a proactive approach to cost cutting, implementing an organization-wide operational efficiency improvement plan (in large part driven by the bank's new commercially-minded shareholders). Initiatives undertaken under the plan have included creating a customer service function to free up loan officers, assigning the responsibility for selling non-credit products to loan officers to promote cross-selling, splitting the sales function by product line (separate retail, SME, and corporate loan officers), stratifying the credit analysis process for corporate and SME clients, and reorganizing the problem loan resolution process. Bai Tushum has also implemented a series of customer self-service options to reduce branch traffic, including smart cards, ATMs, POS terminals (at cash points and within retailers), membership in a nationwide ATM sharing network, and a connection to two third party payment kiosk systems.

As a result, return on assets improved to 2.0% in 2014 from 0.9% in 2013 (albeit, this is also the result of an increase in average loan size due to growth in SME loans). Additionally, following a time-to-money credit process study conducted by BFC consultants, Bai Tushum has decided to transform its credit process to a centralized decision-making model with the goal of eliminating process waste and increasing operating efficiency.

Socremo, Mozambique

After negative earnings threatened Socremo's viability and its shareholders stepped up pressure, a new management team undertook drastic cost cutting and process optimization measures, resulting in substantial cost reductions and increased profitably within a short period of time. Of particular interest here is the introduction of biometric identification, which improve controls over customer identification while at the same time increasing the speed of transaction processing. Overall, Socremo is an example of an unprofitable institution turning itself around by undertaking drastic efficiency measures, including the leveraging of alternative delivery partnerships, implemented over the course of just one year.

Case 4. Growth barriers at Socremo, Mozambique

Socremo, a microfinance and SME focused bank, began its operations as an unlicensed credit institution, growing its client base with the help of investments from several international organizations. Due to the difficult operating environment in Mozambique, Socremo is one of just two banks focusing on micro lending in the country, with many of its other competitors exiting the business to serve the corporate and retail segments. Environmental challenges include long distances between towns, and poor transportation and communication infrastructure.

Given the challenges, Socremo has elected to concentrate its operations in urban areas, and has been able to operate very profitably by using this model, with a return on assets of 4.8% recorded for 2014

(driven by high portfolio yields and net interest margins, at 43% and 24% for the year, respectively[15]). Cost optimization efforts implemented by new senior management in 2010 brought Socremo's income to the high levels seen in recent years (the photo above shows several departments sharing limited office space as a part of Socremo's cost saving culture). Unfortunately, this strategy has presented a limiting factor to Socremo's growth, as Mozambique's urban market is becoming saturated. If it is to grow its asset base, the bank must now work to design a way to operate in more remote areas profitably.

AccessBank, Madagascar

In the past, the institution's already high efficiency levels and successful operations limited its appetite for further efficiency improvements, but growing competition is beginning to change that picture. AccessBank Madagascar recently reorganized the responsibilities between front and back office staff in its branches while at the same time increasing its presence in rural areas, reducing its cost to income ratio as a result.

FINCA, Democratic Republic of Congo

The low infrastructure quality and low population density of the Congo have translated into extremely high operating costs for FINCA when compared with organization in other regions. As a central market player with very limited competition, FINCA has not faced great market pressures to improve its operating efficiency. At the same time, difficult operating conditions forced the organization to innovate to cut costs and remain viable. This has resulted in mixed outcomes: redundant paper-based processes and a suboptimal organizational chart exist side by side with innovative and efficient agent network areas. By working through agents, FINCA cut the cost of a single transaction by half. Today, FINCA deploys over 500 agents; it aims to work with 1,200 agents by the end of 2016 in order to cost-efficiently expand and reach more rural clients.

5.3 Cross-Cutting Observations on Efficiency in the Six Banks

Importance of institutional history in shaping motivations

The case studies show that a bank's history and its resulting organizational culture can play a strong role in shaping its motivations for efficiency improvements, as the table below illustrates. For example, one recurring pattern is that a past history of strong growth and market leadership frequently breeds contentment, until the rise of competitors and/or the appearance of new investors generate enough pressure to overcome institutional inertia and kick start reforms.

Need for tailored approaches

Nevertheless, there is no universal pattern of inefficiencies that is repeated across all banks. Each case study bank has its own unique mixture of strengths, weaknesses, and opportunities for efficiency improvements. While there may be correlations between certain life cycle stages and the main areas of inefficiency, investors or banks cannot fall back on clear or simple rules such as "during growth stage A, prioritize efficiency intervention B". Improving efficiency in the industry as a whole will require a diverse spectrum of interventions, tailored specifically to an individual bank.

[15] Double-digit inflation was historically a driver of the high interest rate environment in Mozambique. Though inflation rates have been more moderate in recent years (2.6% in 2014), this has not translated into lower interest rates for clients.

Table 3. Efficiency drivers and efficiency measures in the case study banks

Case Study	Context and Motivations	Efficiency Measures Taken	Remaining Challenges	Possible Future Efficiency Measures
AccessBank Azerbaijan	• Contentment from being a market leader • Economic environment pressure to reduce operating costs	• Technology implement customer-facing technology and internet banking in order to increase customer service quality • Culture adopt changes to focus on communications and operating efficiency	• Competition will not go away • Earnings pressure will only grow stronger because of difficult economic environment	• Value Proposition explore untapped customer segments • Organizational Structure adapt to current and future growth strategy • Process explore improvements and eliminating the steps that do not add value to the customers
AccessBank Madagascar	• Outreach challenges low population density and weak infrastructure	• Organizational Structure reorganize front and back offices • Delivery reaching out to rural areas through agriculture value chain approach	• Competition is growing at very rapid pace • Growth pressure will only grow stronger because the targeted market might come close to saturation and alternative delivery channels may be required in order to maintain low cost of operations	• Value proposition explore new products or market segments to grow and to fend off competition • Delivery Implement alternative delivery channels to reduce cost of distribution and increase outreach
ACLEDA Cambodia	• Contentment from being a market leader • Regulatory changes affecting liquidity management • Competition driving down margins, encouraging efficiency	• Value Proposition improving its operating model by decentralized operating model which dropped down operational efficiency cost • Process simplification of credit forms • Technology automation of some paper-based processes	• Competition will not go away • Growth pressure will only grow stronger because the targeted market might come close to saturation and alternative delivery channels may be required in order to maintain low cost of operations	• Culture get out of the contentment mindset • Process reduce manual work and increase process automation to reduce cost of branch operations

Case Study	Context and Motivations	Efficiency Measures Taken	Remaining Challenges	Possible Future Efficiency Measures
Bai Tushum Kyrgyzstan	• Contentment from past successes • Earnings pressure from investors • Growth pressure from transformation into full-service bank	• Organizational Structure centralized structure and realignment of certain functions • Process major lending process improvements • Technology smart cards, ATM, etc. to offer self-service options	• Growth pressure from shareholders rising • Earnings pressure from shareholders rising	• Culture explore how to help staff adjust to the new expectations from investors and to move beyond the contentment mindset
FINCA DRC	• Outreach challenges due to poor country infrastructure • High cost of distribution due to low footprint	• Delivery focus on agent networks to reach rural area • Value proposition go up market, products for the SME segment	• Growth pressure will only grow stronger because the targeted market might come close to saturation and alternative delivery channels may be required in order to maintain low cost of operations • Escalating payroll cost Availability of highly skilled human resources is limited	• Culture explore how to continue to improve staff skills and motivation • Process explore improvements and eliminating the steps that do not add value to the customers
Socremo Mozambique	• Earnings pressure from shareholders	• Technology biometric ID to speed up transactions • Delivery form partnerships • Value proposition go up market, products for the SME segment	• Growth pressure from shareholders increasing • Earnings pressure from shareholders increasing	• Organizational Structure examine whether it is still suitable • Culture help staff adjust to new expectations • Process find out where excess costs can be cut, and prepare for additional reporting requirements from shareholders

Optimizing efficiency is a never-ending task

The consultants found considerable scope for efficiency improvements in all case study banks. This may appear surprising at first glance, but as we have argued further above, inefficiencies accumulate naturally as institutions and their environments evolve. Thus, improving operational efficiency is an open-ended undertaking: a bank that optimizes its efficiency today may have to re-calibrate its systems again tomorrow to operate efficiently as organizational, market, or regulatory contexts change. Optimizing efficiency means continually adapting an institution to ever-evolving internal and external environments.

6 Operational Efficiency Improvement Methods

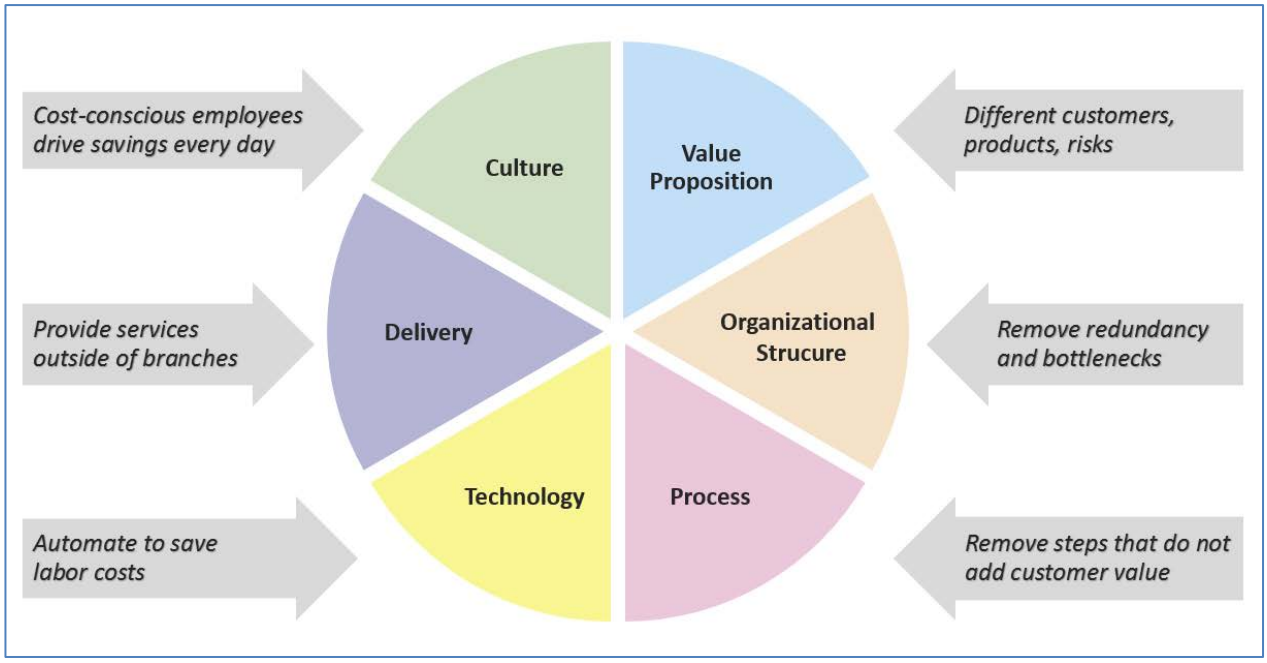
This section provides an overview of the various methods that exist for improving operational efficiency, grouped into six thematic categories, using real-life examples to illustrate each method's implementation modes and possible outcomes.

6.1 Improving Efficiency: Overview of Methods and Drivers

Six categories

Operational efficiency methods can be grouped into six categories, as the figure below shows.

Figure 2. Six broad operational efficiency categories



Factors driving different efficiency interventions

Each of the six categories above encompasses several distinct efficiency interventions. With so many potential options at their disposal, microfinance institutions seeking to improve their efficiency typically do not implement the full range of possible solutions. Rather, the case studies as well as the consultants' wider experiences indicate that banks' decisions about which areas to target for improvements are largely contingent on the specific pressures or drivers leading them to seek to improve efficiency in the first place.

The following table identifies which of the four main efficiency drivers (as discussed in Section 4.2, above) usually leads banks to select a given method for improving efficiency.[16] For example, outreach pressure, which occurs when inefficient operations serve as a barrier to expand into new regions or client segments, often leads banks to re-examine their delivery systems and consider innovations such as agent networks or mobile branches. Conversely, banks suffering from the effects of escalating payroll costs typically turn their attention to improving processes and adopting technological innovations.

All of the methods listed in the table are discussed in greater detail in the rest of this section, further below.

[16] The table only flags general patterns; which efficiency intervention(s) any given bank eventually chooses to adopt may also depend on other factors not captured here, such as institutional history and corporate culture.

Table 4. Key methods to improve efficiency and their drivers

	Key drivers			
	Earnings Pressure	**Outreach Pressure**	**Escalating payroll costs**	**Competition on service quality**
1. Value Proposition				
Changing target groups	x	x		x
Changing products	x	x		x
Changing risk appetite	x			x
Broadening business lines		x		x
2. Organizational Structure				
Stratifying by function	x		x	x
Separating business lines		x		x
Centralization	x		x	
Creating 'spokes'	x	x	x	x
3. Process				
Process mapping	x	x	x	x
Centralizing credit processes	x		x	
Credit scoring	x	x	x	x
Risk-based credit assessment	x		x	
4. Technology				
Core Banking Systems	x	x	x	x
Reducing costs via technology	x	x	x	x
5. Delivery				
Agent networks	x	x		x
Mobile branches		x		x
Call centers		x		x
Partnerships		x		x
6. Culture				
Continuous improvement	x	x	x	x
Methodology departments	x			

Annex 1 depicts a simple Excel assessment checklist for a financial institution's efficiency and opportunity for improvement based on the six efficiency categories.

Box 3. Improving operational efficiency – some words of caution

- *All of the possible changes presented below, to varying degrees, expose organizations to risks from disruption, including losses in employee morale and customer satisfaction. These risks have to be kept in mind and duly managed.*
- *Maximizing efficiency in one area of operations can have detrimental effects on efficiency in other areas. Careful planning, sequencing and coordination are required to improve an institution's overall efficiency in the long run.*
- *If operational efficiency is pursued single-mindedly it is a recipe for disaster. Efficiency improvements must always be balanced against various other interests, such as client satisfaction, risk control, reputational hazards, social mission, and staff morale. That is why efficiency efforts cannot be approached as a stand-alone discipline.*
- *The overall aim is to get the balance right.*

6.2 Value Proposition

Empirical analysis of global MFI performance shows that loan size is the strongest determinant of efficiency performance.[17] A simple way to improve operational efficiency metrics is for microfinance pro-

[17] Mix Market (2011) *Defining Responsible Financial Performance: Understanding Efficiency* http://themix.org/publications/microbanking-bulletin/2011/05/microfinance-efficiency

viders to increase the size of loans, not least because efficiency is most frequently measured in relation to income and the size of the loan portfolio, disregarding the number of customers served.[18]

Some inflation-adjusted growth in average loan size is inevitable as MFIs mature, given the growth in client businesses and borrowing needs. Expanding into the SME business can mean continuing to serve these "graduated" clients, reaching additional larger clients with better growth potential, and providing better product cross-selling opportunities for income diversification, as larger businesses tend to use more financial products. Moving into the more profitable SME business can also be a means to subsidize the less profitable microbusiness. Some institutions choose to move away from smaller loans entirely in order to improve earnings. While such decisions are understandable given the difficulty associated with serving smaller clients efficiently, they constitute a mission creep for donor and social investment funded organizations.

A trend of broadening business lines to include SME, or even corporate lending (in the case of ***AccessBank Azerbaijan***), was observed for all banks under review, as shown in the table below. This was especially apparent in the case of ***Bai Tushum***, which has recently moved into the SME business and away from smaller micro-borrowers[19]. ***FINCA DRC*** chose another approach and increased its exposure to larger borrowers to improve its profitability and cross-subsidize its microfinance activities. Beyond our six case studies, ***SKS Microfinance India*** is another example of an institution that has been able to scale while maintaining its focus on serving micro borrowers.

Table 5. Average loan size growth for institutions reviewed*

Institution	2014	2013	2012	2011
AccessBank, Azerbaijan	25%	29%	32%	11%
AccesBanque, Madagascar	12%	14%	5%	-9%
ACLEDA, Cambodia	24%	27%	-7%	32%
Bai Tushum, Kygryzstan	14%	51%	46%	21%
FINCA, DRC	45%	22%	11%	1%
Socremo, Mozambique	-4%	7%	6%	30%

**Based on USD figures, nominal value figures, as reported by the banks or MixMarket*

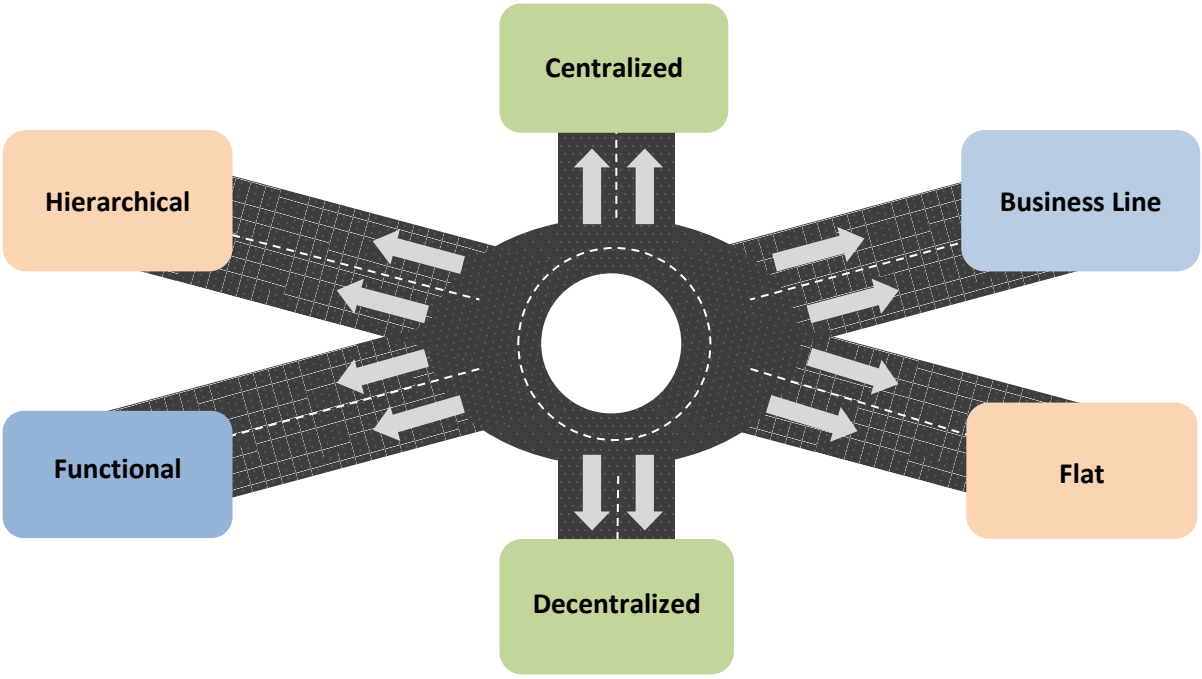
6.3 Organizational Structure

Organizational structure is often a key determinant of the efficiency of a financial institution. Because banks focused on microfinance often begin their operations as simple one or two-product organizations, they are able to make do with equally simple organizational charts. As they grow and begin to offer wider product ranges, institutions add staff to handle the broader offerings, often letting their organizational charts develop on an ad hoc basis. This often results in redundant coverage of some functions and inadequate emphasis on others.

[18] While arguments for measuring efficiency based on the number of customers have been made within the microfinance community, these make the most sense in a financial inclusion context, whereas asset and income based ratios make more sense in a financial performance context.

[19] Bai Tushum definitions: Micro-borrowers are natural persons taking out retail loans (agroloans, consumer loans, construction loans, etc.). Micro loans start from KGS 10,000 (USD 130) and range up to KGS 2 million (USD 26,350). http://baitushum.kg/en/retail-banking/loan-products/

Figure 3. Key organizational structure choices



Designing an organizational structure that fits a financial institution's evolving needs is a major challenge. Different structure types have advantages and disadvantages, with functional, product-focused, flat, and matrix style organizations being some of the options. The size, maturity, and complexity of institutions are the primary determinants of the best organizational structure type.

Because larger institutions often serve multiple client segments, they tend to benefit from structures based on products or business lines, allowing for leveraging of specialized expertise in areas such as credit assessment (as shown in the case of ***Bank Mandiri*** below). Larger institutions often benefit from matrix organizational structures to boost communication and cooperation among disparate functions.

Smaller, simpler institutions often use flat organizational structures (as seen in the case of ***Socremo in Mozambique***, *illustrated in Case 4*) to expedite decision-making while growing rapidly. They also tend to benefit from departments that are divided by functional areas, such as credit, sales, and operations, in order to allow for close cooperation in each function.

The degree of centralization of functions in a head office is another important organizational decision factor. Centralizing as many functions as possible frequently yields better efficiency, with functions being performed by fewer, more specialized people, leaving branches to focus on sales. Unfortunately, full centralization is not always possible due to geographic and infrastructure reasons (as seen in the example of ***FINCA DRC***, which employs small teams of agent managers in each branch to service their agent network). Internet connectivity issues also present barriers to centralization.

The following can be viewed as signs of an ineffective or inefficient organization structure:

- Unclear lines of reporting and poor communication between departments (unnecessarily complicated organizational charts and inconsistent information received from conversations employees of different departments can point to this issue)
- Excessive hierarchical management layers creating unnecessary bureaucracy (oversight tiers in the organizational chart may appear excessive, the number of managers per employee appears too high)
- Communication or process bottlenecks, with too many tasks going through specific employees or departments (many functions in the organizational chart reporting to the same few people)
- Inefficient use of resources, with the same work being performed by multiple departments (duplication of functions on the organizational chart)

When evaluating organizational structure, it is important to note that structures cannot be static and must evolve with the organization. When processes change, the reporting lines or functional departments may also need to change. Controls over each function must be carefully balanced against the benefits of its autonomy, which affects its ability to meet customer needs in an agile manner (this is especially true for customer-facing functions). Alignment of incentives should also be carefully considered when designing organizational charts – for example, functions focused on long term development, such as branding and strategy, should not fall under the same reporting lines that focus on short term goals, such as sales. For similar reasons, functions focused on operations and controls should have separate reporting lines than those focused on sales, as their success is measured in fundamentally different ways.

Common ways in which organizational restructuring can improve efficiency are summarized in the table below.

Table 6. Organizational restructuring examples

Change	Benefits	Appropriate Uses and Examples
Stratify organizational chart by function (sales, operational, and risk functions are separated)	• Conflicts of interest for top management are reduced • Redundant processes are reduced • Productivity is improved through specialization	• "Vanilla" banking organizations that have reached a size where each function necessitates a full time department (may not be necessary for smaller organizations) • Approach works for ***Bank Mandiri*** of Indonesia
Separate business lines (micro, SME, retail lending)	• Cross-selling is promoted • Productivity is improved through specialization	• Organizations with distinct non-overlapping customer bases (less appropriate for more homogenous customer bases) • Approach yielded success for ***Bai Tushum***
Consolidate support functions in the head office (centralization)	• Redundant processes in branches are eliminated • Costs are reduced and standardization and controls are improved	• Connectivity and IT resources are strong enough to support a centralized system, and no regulatory barriers to branch simplification exist • Opportunity for expansion makes simpler branches more attractive • Approach yielded success for ***FINCA DRC***
Create "spokes" (service extensions) around branches	• Support infrastructure at branches is leveraged • Large geographic areas are covered through regional centers without the cost of new branches	• Connectivity and infrastructure issues necessitate complex semi-autonomous branches (or full-service branches are required by regulations) • Approach yielded success for ***Access Banque Madagascar***

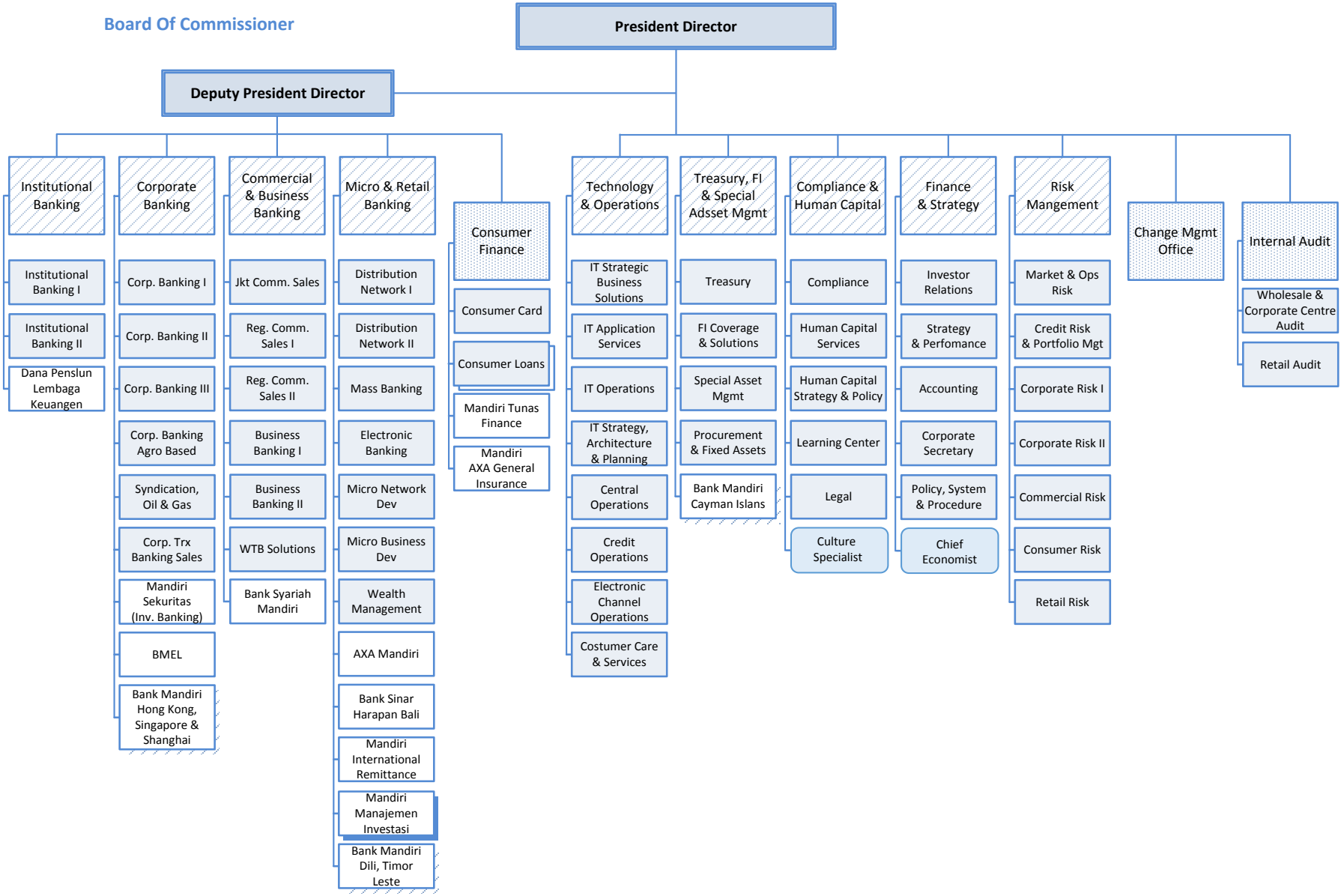
Case 5. Organizational structure at Bank Mandiri[20]

Bank Mandiri, the largest bank in Indonesia with assets close to USD 60 billion, is an amalgamation of four of Indonesia's state owned banks that were merged together as a part of a restructuring process initiated by the state in 1998. In 2005 the bank underwent a major organizational restructuring in order to improve its performance.[21] Efficiency measures undertaken included the closure of 194 branches that cannibalized the customer bases of others, a one-third reduction in the work force, a performance-based organizational restructuring initiative, and the implementation of an integrated core banking system. The bank also implemented separate growth strategies for each business line at this time.

Mandiri's organizational chart transformed significantly as a result of the restructuring. The 2004 chart showed a complicated organization, with the consumer and commercial banking heads reporting directly to the CEO, and corporate banking reporting to a chief operating officer (along with support functions such as finance and information technology, but not human resources and compliance – these reported directly to the CEO). The 2014 organizational chart, pictured below, shows a more streamlined approach, with a Deputy President in charge of five distinct business lines, and the heads of the back office functions reporting directly to the President. The new organizational chart reflects both the functional stratification and business line segregation improvement strategies discussed in the table above. The separation of business lines from back office functions, with a top executive focused on each business line, allows for clear strategy and incentive alignment for each department without any unnecessary complexity. For example, whereas before a top executive had to balance the generally unrelated priorities of the corporate banking business, IT, and finance, each top manager now has a single unified task area (reducing risk, growing the SME business, etc.) The addition of an independent change management office is also an excellent industry best practice, highlighting the focus on proactively addressing shifting priorities.

[20] Bank Mandiri (2014), *Bank Mandiri's Transformation*
http://media.corporateir.net/media_files/IROL/14/146157/Bank%20Mandiri%20Transformation.pdf
[21] *Ibid*

Figure 4. Organizational chart of bank Mandiri



6.4 Process

Optimization of processes throughout financial institutions by removing redundant functions, low value added activities such as data entry, excessive controls, and the movement of paper, can markedly reduce operating costs. While any process within a financial institution can be optimized, this section focuses on optimization of credit processes, which are typically the largest generators of income and expenses.[22]

Process mapping

Process mapping (also known as value stream mapping) is a Six Sigma tool that creates visual representations of common processes with steps that add value clearly marked, and those that do not add value considered for elimination. Process timing exercises can supplement the insights gained from mapping by identifying major bottlenecks (such exercises were conducted by BFC and ADV consultants for the some credit processes at the six case study institutions as well as in other financial institutions beyond this study). Timing exercises typically involve observing multiple iterations of a specific process, keeping track of the time each step takes to complete, and setting improvement targets based on the observations.

The consultants created simple process maps[23] for one credit process at each of the organizations analyzed for this study, identifying steps that can be improved through elimination of wasteful procedures (such as hand copying of borrower information onto new credit application forms for repeat borrowers), with a notable number of "quick win" process change ideas generated for each institution. Please see Annex 2 for the process maps created for each institution in addition to a summary of recommendations for each.

Case 6. Process mapping at Standard Bank Group of South Africa[24]

Standard Bank Group (SBG), a large South African bank with about USD 200 billion in assets, used process mapping as the main tool in its Six Sigma project for optimizing its retail and SME businesses (which account for about a third of bank revenues). The department covering these customers operated by using isolated single product groups without back end function integration among the groups, causing significant duplication of functions within the organization (in large part caused by lack of information system integration among the product groups). The lack of comprehensive performance measurements within the organization allowed the process waste created by this setup to go unnoticed for some time. A newly implemented process mapping system revealed the duplication of functions, and a business-wide scorecard was used to measure and quantify the waste created by these and other inefficiencies (as well as track progress toward waste elimination). As a result of the process optimization steps and scorecard efforts, the bank was able to save USD 65 million over a four year time period.

Operating costs can sometimes be reduced through inappropriately loosening risk standards by decreasing the number of controls and verifications in a process. While this means of cost reduction may not be prudent, it is possible and advisable to reengineer credit processes without compromising the quality of controls. There are several ways of going about this, as outlined in the table below and further discussed in the subsequent section.

---

[22] MicroSave, 2014, *Building Operational Excellence as a Core Differentiator,* http://microsave.net/files/pdf/1393908875_BN_148_Building_Operational_Excellence_As_A_Core_Differentiator.pdf
Eurogroup Consulting, 2010*, Industrializing Back Offices: The onset of Banking Factories*
Women's World Banking, 2003, *Credit Scoring in Microfinance*, http://microfinancegateway.org/sites/default/files/mfg-en-paper-credit-scoring-in-microfinance-guidelines-based-on-experience-with-wwb-affiliates-in-colombia-and-the-dominican-republic-oct-2003.pdf

[23] The process maps developed by the consultants do not use the Six Sigma methodology. Different symbols were used in order to provide a simple and comprehensive representation for non-Six Sigma expert users.

[24] Based on the Six Sigma project at Standard Bank: Scorecards Help South African Bank Reap Savings (Randy Wood), 2005, http://isixsigma.com

Table 7. Credit process improvement

Means	Operational Effects	Financial Effects
Centralization of credit processes	• Removal of redundant functions • Higher productivity through employee specialization • Credit decisions are more objective due to separation of duties • Operational risk management (fraud, errors) is shifted to headquarters • Customer service and knowledge of clients may suffer if not managed properly • Depending on the setup, loan processing time may suffer	• Lower personnel costs • Loan officers free to focus on new business – potential growth in loan volumes • Lower cost of adding new branches (less work at the branch level) • Potentially lower NPLs • Potentially higher IT costs
Credit scoring	• Credit processes are highly standardized and automated • Time spent on credit assessment is reduced • Fewer employees needed for credit assessments • Credit quality sometimes improves • Poor implementation may expose the institution to fraud	• Lower personnel costs • Potentially higher IT costs • Potentially lower NPLs
Risk-based credit assessment	• Different levels of credit assessment effort are applied based on the risk profile of the client • Low risk clients receive faster service	• Lower personnel costs • Faster credit approval for lower risk customer leads to stronger demand and faster growth • Credit risk may increase slightly

Centralization of credit processes

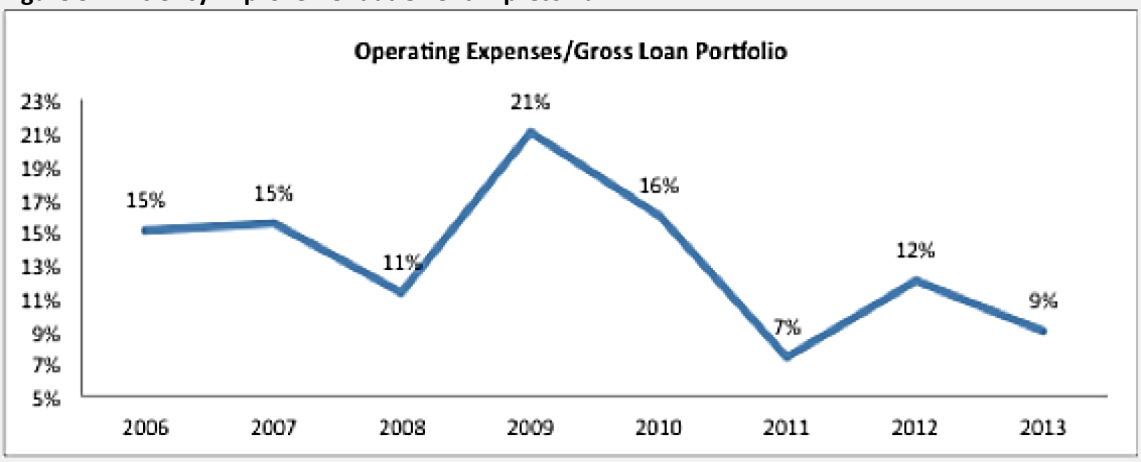
Driven by factors such as long travel distances between branches and poor connectivity, many micro lenders operate by using a decentralized lending model, whereby the credit approval function is handled autonomously in each branch with only the largest loans being reviewed by the head office. This typically results in complex branch structures, including branch level underwriters, credit analysts, and approval committees. Branches also frequently have their own credit support functions, such as problem credit collection specialists, auditors, and even appraisers. While the decentralized credit process approach offers the benefit of local decision-making and stronger ownership of customer relationships by the branches, centralizing some of the functions mentioned above can often yield significant cost savings through elimination of redundant functions, tighter process control, and functional specialization, leading to lower operating costs and better work quality.

Under centralized lending models, the primary role of loan officers is to generate new loan business, manage existing client relationships, and gather client information that is then analyzed by head office employees using a standardized methodology (as opposed to the loan officer or branch-level personnel engaging in credit analysis). Assigning the credit analysis function to a risk-focused employee removes a potential conflict of interest for the loan officer, who would otherwise need to balance the competing priorities of increasing sales and maintaining portfolio quality. Depending on factors such as the means used to transmit loan application information to the head office (through the operating system, by email, on paper, etc.), and the efficiency of head office compared to branch operations, centralized credit processes may either increase or decrease loan throughput times. With automated information flows and systemized head office operations, throughput times should be lower under the centralized model (due to specialization of individuals involved in the process and fewer bottlenecks created by uneven workflows, with the work of support personnel not restricted by specific branch assignments).

Case 7. Centralized lending at Orient Express Bank[25]

Orient Express Bank, a regional Russian bank focused on micro and SME lending, had strong market share in the eastern Khabarovsk region, but management felt that a new operating model was needed in order for the bank to compete in other regions. To address this challenge, EBRD, one of the bank's lenders, engaged BFC to implement a centralized lending model when launching MSE lending, whereby the underwriting, call center, operations, and training functions were established at the head office, leaving the branches with only the sales function (the process was initiated in 2008). Under the new structure, loan officers at branches switched to simply collecting data, conducting initial screening and disbursing loans, while head office underwriters undertook all analysis, validation and approval work. Head office call center specialists handled monitoring, collections, and marketing to new clients. An automated credit scoring system was also implemented at this time along with a new lending methodology and a new customer relationship management mechanism to suit the centralized lending model.

Figure 5. Efficiency improvement at Orient Express Bank



Following the implementation of the new model, operating costs declined, with the ratio of operating expenses to the loan portfolio reaching a low of 7% in 2011, with movements up and down in the subsequent years (reaching 12%, respectively 9% in 2012 and 2013) due to rapid scale-up. The bank also added the ability to open new branches more quickly as the branch level functions and training needs were diminished by leveraging the head office personnel. An important factor for the success of this centralization project was the fact that it was implemented during the initial stage of launching micro and small business lending with a low level changes for the affected staff. Resistance to change, especially in organizations where existing processes are working reasonably well, commonly serves as a major barrier to centralization projects, with the cost of business disruption through restructuring seen as a major cost.

Credit scoring

Credit scoring is an example of an internal technology-based solution that can significantly improve operational efficiency; however, it should be noted that credit scoring is as much a process improvement as it is a technological one. Though the term "credit scoring" conjures up the image of computerized decision-making software, it can be more broadly interpreted as a systemized data-driven tool for making credit decisions. Such a tool can be fully coded into a computer system that automatically pulls information from various sources (which increases IT costs), but it can also be completely manual (using Excel), with scores calculated based on a standard set of formulas and rules. The primary goal of scoring systems is to speed up credit decisions, reduce the labor required for credit analysis, and make the decisions more consistent and objective. Credit decision accelerations can also be achieved through well-engineered manual processes, and much of the processing speed improvements from credit scoring come from the careful engineering of the underlying process, rather than from technology implementation per se. Thus, the time savings resulting from credit scoring implementation are often overstated, while other positive factors such as improved risk management and inclusion of more clients through more objective analysis are underestimated.

[25] Based on BFC's direct work with the institution

Credit scoring systems typically use a series of inputs, from demographic information on a business manager (for example, marital status), to past loan performance, to subjective loan officer evaluations of factors such as the competitive environment for a business. Statistical analysis of historical loan performance cross-referenced with credit application data is often used as the basis for scoring models (with at least 500–1,000 of historical bad loans required), but expert opinions can be substituted in the absence of such data to launch the scoring systems.

Once in place, credit scoring systems can be used in a variety of ways, including:

- As a supplement to manual credit analysis, where the two processes are done in parallel and the score is used as one component of the decision making process (appropriate when loans offered are less homogenous, when the scoring system is new and untested, and when scoring inputs are less reliable)
- As the main credit decision making tool (appropriate for homogenous loans with significant loss data available)
- To determine interest rates and other loan conditions (factors such as credit history, collateral value and history with the bank can be used in a scoring model to determine loan conditions without automated credit decision making)

Case 8. Automated credit scoring at Mobiasbanca[26]

With the help of BFC experts, Mobiasbanca of Moldova implemented an automated credit scoring system for micro loans in 2007 in order to speed up the loan approval process without compromising portfolio quality. Because micro loans accounted for a relatively small portion of Mobiasbanca's business at the time of the model's implementation, management was willing to take a risk in piloting the automatic scoring system. The unique feature of the system was automatic approvals without credit committee involvement. Both a scoring formula as well as a set of approval decision rules had to be developed to make the system work, with expert opinions eventually replaced by statistical information as the decision drivers. The Mobiasbanca case showed that an automated system can be implemented rather inexpensively, with Excel used for data entry into the system, and without the purchase of packaged solutions[27].

Regardless of their use and automation, credit scoring systems force banks to think about credit assessment in highly structured ways, improving the clarity and efficiency of decision making. A successful implementation of a credit scoring system can improve loan officer productivity while providing much faster service to clients – a competitive advantage. In line with the systemization of credit analysis, scoring typically leads to its centralization, which has significant positive benefits for risk management – credit quality has been observed to improve in some cases. As with any other initiatives, however, credit scoring is not without risks. For example, poorly implemented systems can be prone to gaming, as described in the example of ***Banque Populaire Rwanda*** below.

As noted by a study conducted by Women's World Banking, credit scoring in microfinance cannot fully replace traditional credit analysis because not all risks of micro-borrowers may be boiled down to quantifiable characteristics[28]. It can, however, decrease time spent on credit analysis. For example, ***FORUS Bank of Russia*** estimated that credit scoring would allow it to increase its average loan officer client load from 120 to 200.[29] Credit scoring can also have a positive effect on portfolio quality by forcing rigid data-driven decision-making and by allowing better allocation of funds toward lower risk customers, as noted by Innovations for Poverty Action.[30]

[26] Based on BFC's direct work with the institution

[27] Mobiasbanca has since implemented SME credit scoring solutions provided by Front Business Solutions Group

[28] Women's World Banking (2003), *Credit Scoring in Microfinance* http://microfinancegateway.org/sites/default/files/mfg-en-paper-credit-scoring-in-microfinance-guidelines-based-on-experience-with-wwb-affiliates-in-colombia-and-the-dominican-republic-oct-2003.pdf

[29] Opportunity International (2008), *Credit Scoring in Microfinance* http://opportunity.net/files/Credit%20Scoring%20White%20Paper%20-%20FINAL%20formatted.pdf
Empirical analysis of the financial effects of credit scoring in microfinance is very limited.

[30] Innovations for Poverty Action (2014), *Scoring for Access: Emerging Evidence on the Impact of Credit Scoring on SME Lending* http://poverty-action.org/blog/scoring-access-emerging-evidence-impact-credit-scoring-sme-lending

Case 9. Automated credit scoring at Banque Populaire Rwanda[31]

The case of Banque Populaire Rwanda (BPR) provides examples of the risks of ineffective credit scoring systems. In 2012, BPR introduced in their credit processes a statistical information- based scoring tool for a new uncollaterized paycheck-based lending product with the objective of achieving better risk management and reduction of lead times. After two years, a renewed credit scoring tool was rolled out for twelve more loan products. A set of criteria, programmed into the scoring tool, was used to determine which loans qualify for automatic approval and which need to be reviewed by a credit committee.

Because proper controls were not initially put into place, loan officers were able to manipulate the data input into the automatic scoring system, causing a spike in credit approvals and an increase in fraud. A back office function for credit scoring data reconciliation was implemented in order to re-calibrate the scoring formulas on a monthly basis and prevent further manipulation. The increased controls lead to lower and more predictable risks but also lowered the efficiency of the back office, hence the processing volume. The second tool introduced in 2014 extended the credit approval timeline from three days to ten days especially due to the fact that the new tool included collaterised loans. Currently, in 2016, BPR is in the process of revamping the credit scoring tool, based on all the lessons learn in the last four years of usage and calibration of the two credit scoring tools and its associated credit processes.

Risk-based credit assessment

Risk-based credit assessment, or the practice of applying different underwriting methodologies to clients with different risk profiles, is a common practice in banking. Express loans offered to salaried employees that have wages deposited directly into accounts at a financial institution, offered in a wide variety of lower income countries, is one common application of this concept. Most financial institutions serve a range of clients – clients with varying degrees of credit history with the financial institution, other credit histories, financial strength, collateral capacity, liquidity, and guarantor coverage. Additional protection provided by strong performance in any of the above factors (as well as others) provides an opportunity to reduce credit assessment efforts, reducing the administration costs for less risky loans. Based on case studies conducted, microfinance organizations do not appear to be taking advantage of this opportunity. The only factor consistently driving variation in risk assessment methodology in the six institutions studied was loan size, with larger loans receiving a higher level of scrutiny. Repeat customers generally received the same level of scrutiny as new ones at all of the institutions, including site visits at the time of each renewal (with a few exceptions).

While risk-based credit assessment practices may expose an institution to additional credit risk, this effect is likely to be small, and likely to be outweighed by benefits such as lower personnel costs in relation to the loan portfolio (due to streamlined procedures) and increased customer satisfaction due to faster approval for more qualified clients (a competitive advantage in the long run). The best-suited approach to risk based credit assessment will vary by market, and only institutions operating in markets with very high fraud risk should avoid this practice altogether.

[31] Based on the BPR interview conducted by the AdVision Finance consultant

6.5 Technology

There are two basic ways to achieve greater operational efficiency with the aid of technology: to use it to improve internal processes through investment in back and front office systems and to reduce the cost of transactions (for example, by providing customer self service options for transactions). Each is discussed in separate sections below. [32]

Investment in core banking systems

The vast majority of financial institutions use information technology systems to record and monitor clients' accounts and internal ledgers. Additionally, software systems are sometimes used for internal processes such as credit approvals and human resources management, and external processes such as funds transfers and credit card transactions. Customer-facing technology solutions, as discussed in the section below, also require software systems. Choices of the overall information technology architecture and its management, the degree to which the various systems interface or are integrated, the database and hosting options, and the degree of flexibility and adaptability of the systems, vastly affect each institution's capacity to respond to market developments in a competitive manner and grow and scale efficiently.

What matters most in the process of selecting technology is proper planning and return on investment analysis. Banks can often feel pressure to make significant information technology investments based on the decisions of competitors and pressure from stakeholders, but fail to consider future plans and ongoing operation and maintenance costs associated with the systems (including direct expenses such as annual fees paid to software providers and employees required to operate the systems, and indirect expenses such as those associated with IT fraud risks, future compatibility and integration issues, and ongoing training needs).

Because internal software system decisions affect not only the institution's immediate term performance, but also its ability to add new technology solutions as they become appropriate (for example, customer facing technologies such as mobile banking), properly planning the information technology architecture is paramount to ensuring future diversity of products and services offered. Failure to thoroughly consider future plans when making IT investment decisions can result in unnecessary road blocks, require cumbersome workarounds, and create delays in moving forward with alternative delivery channel strategies (as one example). Return on investment analysis for IT is equally important – banks should clearly understand how each new investment fits into its overall strategy.

AccessBank Azerbaijan is one example of an institution facing the negative consequences of poor IT planning and analysis. The bank recently went through a lengthy process of converting its core banking system to an internationally popular solution, but the conversion was decided upon and managed separately from the overall business strategy of the bank. ***AccessBank Azerbaijan*** lacked both a thorough business case for the system conversion and a preparation period to understand resources and process needs. As a result, the architecture eventually put into place does not allow for quick modifications of the system in order to add new features, and the bank is yet to benefit from any improved process efficiency.

[32] This section used information from the following sources:
Temenos, 2014, A fully cloud-based micro financing organization
USAID, 2006, *A Handbook for Developing Credit Scoring Systems in a Microfinance Context*
http://microlinks.org/sites/microlinks/files/resource/files/ML4626_credit_scoring_systems_handbook.pdf
Anita Campion, Sahra Halpern, 2001, *Automating Microfinance: Experience in Latin America, Asia and Africa*
http://centerforfinancialinclusionblog.files.wordpress.com/2011/10/automating-microfinance.pdf
The Economist, 2013, *Bit Loans*, http://economist.com/blogs/schumpeter/2013/02/microfinance
Opportunity International, 2008, *Credit Scoring in Microfinance*
Temenos, 2010, *Fastest Growing Microfinance Institution Reliably Scales With Temenos*
http://temenos.com/documents/mi/cs/cs-equitas-microfinance.pdf
Technoserve, 2015, *Technoserve Coffee Initiative*, http://technoserve.org/files/downloads/ISF-briefing-9-case-study-coffee-initiative.pdf

Box 4. Core banking in the cloud

In recent years banking platforms hosted in the cloud (instead of on a bank's own servers) have emerged as a growing trend in microfinance, helping institutions scale faster while controlling costs and offering a greater level of flexibility. The cloud-based operating system designed by ***Musoni*** *is discussed in the context of cashless banking elsewhere in this report. Another example of a popular cloud-based system is one designed by the Berlin-based* ***Mambu****. Operating by using the software-as-a-service model (SaaS), Mambu does not require for any software to be installed on an institution's own computer – all work is performed through web or mobile browsers with real time updates (an internet connection is available to use SaaS systems). The SaaS model can also be relatively cost effective compared to traditional core banking options due to its pay-as-you-go fee structure based on the number of active users.*

One organization that chose to implement Mambu to increase scaling agility and improve information flow was ***FINCA Costa Rica****, which unlike other FINCA institutions works with a wide network of credit organizations to reach rural communities, acting as an APEX lender to small community lenders and not lending to borrowers or borrowing groups directly. Implementing Mambu allowed* ***FINCA Costa Rica*** *to onboard credit organizations much more quickly (with no software installation required) and gain access to customer information from all credit organizations in its network for better asset quality control (as opposed to waiting for weeks for excel files from the country's remote corners to arrive). The agility allowed by the cloud system allowed* ***FINCA Costa Rica*** *to onboard several hundred credit organizations and reach over 3,500 active clients as of March 2015 since the platform's 2012 implementation. FINCA Costa Rica is also currently considering bringing this model to* ***Panama****.*

SaaS operating systems are not appropriate for every micro lender. They require stable internet connectivity (not always available in countries with poor telecommunications infrastructures), and can become relatively expensive for larger institutions due to their volume-based pricing models (typically priced per user, number of customers, or portfolio size). Integration of existing IT systems with SaaS can be problematic, and local regulations sometimes limit SaaS functionalities. For smaller, start-up institutions without connectivity problems, however, SaaS can be a great option, offering the benefits of low up front costs and strong IT cost control, quick deployment, easy scale-up and automatic access to software innovation.

Reducing costs through technology

Many of the efficiency improvements that can be made through technology remove routine transactions from the hands of bank personnel, either through offering customer self-service options or through moving them to third party providers. The table below summarizes these options:

Table 8. Customer facing technology options

Technologies	Benefits	Drawbacks	Case Studies
ATMs and cash-in ATMs	• Fewer cash deposits and withdrawals in branches • Branchless loan repayment • When third party ATMs are used: fee based service with no capital investment	• High investment and typically high operational/back office cost (ATM maintenance, cash operations, reconciliations etc.) • Cost usually transferred to the customer, via transaction, card and account maintenance fees • Not suitable for remote areas where road and telecom infrastructure is poor	• **AccessBank Azerbaijan** uses cash-in machines for loan repayments • **Socremo** issues debit cards to its customers that use other banks' ATMs to access cash.
Fingerprint and iris readers	• Shorter transaction time • Increased control over transactions • Potentially reduced paper work, by removing the paper forms at the transaction level	• Regulations must allow biometric as means of identification, which is not always the case • Quality of finger prints depend	• **Socremo** uses biometric identification for cash transactions in the branches, re-

Technologies	Benefits	Drawbacks	Case Studies
	• Facilitates services to non-literate customers	on profile of customer – for example, people who perform manual labor may have damaged finger prints • Potentially high technology cost, especially integration with back office systems	ducing the transaction time in half.
Tablets for loan officers	• Reduced duplication of data entry • Faster data processing • Reduced paperwork • Can work offline, with limited functionality; and synchronize data when connected • When used with credit scoring and other credit automation solutions, can provide faster credit decisions • When used for agriculture lending, they facilitate specific type of data collection and identification, like land size (GPS coordinates)	• Tablets can be stolen, damaged – increasing the cost of maintenance • Can present a security threat if weak security applications are used • Potentially high technology cost, especially integration with back office systems	• **Opportunity International Tanzania** loan officers use tablets to collect farmers' data and enable customers to apply remotely for loans.
POS devices	• Adequate for third party distribution channels like merchants and agents, in which case it results in fewer transactions in the branch, removing the need of cash operations • Increased speed of transactions • Reduced cost per transaction • Strong transaction security, limited possibility for misuse • Can incorporate the biometric technology and benefit from the same features described above • Can work offline for smart cards	• Limited functionality where connectivity is poor (especially in remote areas) • Usually high cost of maintenance and quality of service/maintenance low in remote areas	• **FINCA DRC** is a prime example
Mobile banking	• Wider range of transactions possible (compared to POS) • Fewer transactions in branches (information inquiries, funds transfers, loan repayment) • Limited software development costs (when third party platforms are used) • Higher customer outreach in rural areas • Reduced cost of cash management	• Requires highly automated processes and reconciliations with third party platforms • Expensive technology and operational cost in the countries where mobile network operators do not have a widely spread solution • Requires investment in customer financial literacy programs (customer technical literacy is assumed with sufficient mobile phone penetration)	• **MPesa** platform used by most banks and micro lenders in **Kenya** to disburse and repay loans
Internet banking	• Potentially fewer transactions in branches • Advance transaction security options • Eliminates the cash operations • Most bank transactions can be performed • Usually free of charge or cheaper for the customers	• Typically only used by urban customers, due to higher need of financial and technology literacy • Not suitable for areas with poor telecoms • Limited impact due to typically low utilization for micro clients	• **AccessBank Azerbaijan** has implemented internet banking recently, but the impact is yet to be measured

Technologies	Benefits	Drawbacks	Case Studies
Payment kiosks	• Fee-based service with minimum capital investment when the kiosks are not acquired by the FI (not an issue when using third party networks) • Fewer transactions in branches (inquiries, transfers, loan payments)	• High investment and operational/maintenance cost when acquired by the FI • Require good connectivity, hence not always suitable for remote areas	• Used by **Bai Tushum** to drive customer self-service

Case 10. Cashless micro-lending at Musoni in Kenya

Musoni, a microfinance institution based in Kenya, is a cashless and paperless lender that takes advantage of the country's near-ubiquitous use of MPesa, the mobile banking platform run by Safaricom, the largest mobile network operator in the country. Launched in 2010, Musoni offers group and individual business loans, as well as loans for agriculture, education and individual borrowing, but does not accept deposits. Staff members equipped with tablets collect customer data in the field, loan disbursements are made directly into customers' MPesa accounts, and repayment is also done through MPesa. Customer information, stored on Musoni's cloud based information platform, is also available through the loan officers' tablets for use during borrowing group meetings.[33]

As of the end of 2013, Musoni had a loan portfolio of USD 2.8 million and 10,500 active borrowers with an average loan balance of USD 264. Its ratio of operating expense to the total loan portfolio of 82.8% was less than impressive (the 2014 global Mix Market average for this ratio was 26.5%), but this is likely a reflection of the institution being in its startup phase[34]. If proven effective, the Musoni model could usher in the next generation of low cost micro lending.

Because no country other than Kenya has a mobile banking platform as widely used as MPesa, fully replicating the model in other countries would be difficult. Nonetheless, Musoni aims to scale its model by offering its operating software (cloud based core banking system with no in-house servers required, integrated with mobile money), built by its Dutch parent company, to other institutions. As of 2015, 38 financial institutions in nine countries used the Musoni platform.[35] A reliable Internet connection is required to use the cloud-based system, which is a constraint for organizations working in less connected locations.

6.6 Delivery

An important theme in the discussion of operational efficiency is moving routine transactions out of branches in order to allow them to focus on higher value added activities and reduce the need for larger geographic footprints. Technology, as discussed above, is one way of achieving this goal. Others include leverage partnerships with players in the local market or opening limited-feature service outlets. The options are summarized in the table below:

[33] The Economist (2013) *Bit Loans* http://economist.com/blogs/schumpeter/2013/02/microfinance
[34] Mix Market (2015) *MFI Report Musoni* http://reports.mixmarket.org/mfi/musoni
[35] Musoni (2015) *The Musoni System* http://musonisystem.com/

Table 9. Alternative delivery solutions[36]

Delivery Method	Benefits	Drawbacks
Agent networks	• Removes small value cash transactions from the branch, allowing branches to focus on higher value added services • When implemented correctly, transaction costs are reduced (see Case 12) • Enables outreach to remote areas • Allows transactions to take place closer to customer places of business or homes	• Reputation risk from poor agent service quality reflecting on the institution • Additional account reconciliation, agent management, and agent liquidity management burden • Risk of inaccurate data synchronization when used offline • Cannot be implemented where agency banking regulations are not in place and may not fulfil KYC requirements
Mobile branches (vehicles)	• Increases outreach to remote areas where road infrastructure is adequate • Provides access to financial services where agency networks do not exist • The service quality can be controlled by the FI • Can develop markets for future branches	• High investment and operational cost • Very few profitable cases • High operational risks (cash in transit, vehicle related risks) • Inappropriate for areas where road infrastructure is poor
Call centers (banking by phone)	• Easy to use for customers, and serves less literate customers • Most customers have phones, including ones in remote areas • Fast service with personal interaction	• High investment cost (database integration, hardware, and employee setup) • Limited transaction types (funds transfers and payments), access to cash not possible • Requires customer education to build comfort with phone banking • Potentially low security of transactions processing
Partnerships with other organizations (retailers, post office network)	• Low cost, as they leverage networks of other institutions • Increase outreach through product cross selling to the partners' customers • Diversification of products and services, including value added services offered by the partner organizations	• Limited by the availability of partners • Potential reputation risk from poor third party service quality • Transaction reconciliations can be burdensome for the FI and partners

[36] World Bank, AccesBanque Madagascar Project Results and Lessons (2014), http://agrifinfacility.org/sites/agrifinfacility.org/files/rjanka/390/ABM_FINAL.pdf
Divya Prabhu, Bank on Wheels: A case study of Dakshina Kannada District (2014) http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2528982
Michael Ferguson, Branchless Banking and Rural Outreach in Malawi: Opportunity International Bank of Malawi's Impact on the Market (2011), http://fsassessment.umd.edu/publications/pdfs/Malawi-Financial-Landscape-Endline.pdf
USAID, Expanding outreach in Malawi: OIBM's Efforts to Launch a Mobile Phone Banking Program (2009) http://opportunity.org/content/News/Publications/Knowledge%20Exchange/Expanding%20Outreach%20in%20Malawi-OIBM%E2%80%99s%20efforts%20to%20launch%20a%20mobile%20phone%20banking%20program.pdf
CGAP, Microfinance and Mobile Banking: Blurring the lines? (2013), http://cgap.org/publications/microfinance-and-mobile-banking-blurring-lines
Tower Group, Mobile Banking Case Studies (2010)
Aiaze Mithe, IFC, Mobile Financial Services for Microfinance Institutions: Case Study of Easypaisa and Tameer in Pakistan (2013), http://ifc.org/wps/wcm/connect/1f78718047c345c9964cf7299ede9589/Tool+11.3+Mobil+Finan+Serv+Tameer+in+Pakistan+1-29-15.pdf?MOD=AJPERES

Case 11. Alternative delivery channels at Opportunity International Bank of Malawi

In order to increase the outreach in rural areas and be closer to their customers, in 2007 OIBM decided to leverage a range of alternative delivery channels, with each channel acting as an extension of each branch. The channels included:

- Banking vans – full service banks on wheels (pictured to the right)
- Banking vehicles – smaller vehicles that can travel off-road and offer limited services
- Agent banking through POS devices in rural stores (offering the same services as ATMs)
- Cell phone banking, offering account information, bill pay, airtime purchases
- Biometric smart cards
- Satellite branches

This multi-channel delivery strategy was a logical path to growth for OIBM given that its customer base was too geographically spread out to serve with branches. Following the implementation of the alternative solutions, OIBM has been able to continuously grow its loans and deposits, reaching 61,445 borrowers and 497,857 depositors by the end of 2013 (equivalent to 3% of the Malawi's population), and representing more than 3.5 times growth for both metrics since 2007.[37]

Case 12. Agent banking at FINCA DRC

FINCA DRC, one of the case study subjects for this study, has successfully implemented an agent banking strategy in order to scale its operations in the vast, infrastructure-challenged Democratic Republic of Congo. Beginning in 2011, FINCA DRC rolled out its agent network via "FINCA Express", deploying over 500 of its own agents over four regions in the DRC; it aims to deploy 1,200 agents by the end of 2016. A dedicated Delivery Channel Manager position was created in FINCA's head office to oversee a team of over 20 employees (mostly branch-level Delivery Channel Officers) dedicated to running the agency operation. Each of the Delivery Channel Officers can service up to 40 agents, aided by so-called "master agents" in monitoring and agent liquidity management (these master agents work from fixed locations or move around by motorcycle).

The FINCA Express agents handle loan disbursement and repayments, as well as accepting deposits. A single customer transaction with a FINCA Express agent is estimated to cost the bank USD 0.7, compared to USD 1.43 for an in-branch transaction, and each agent has the capacity to serve roughly 600 customers compared to 400 for loan officers. Though FINCA DRC's ratio of operating costs to the loan portfolio remains high at 39% as of 2014, this represents a significant decline from 56% in 2011 – a direct result of the agency banking model.

Case 13. Reaching agricultural clients in Madagascar through innovative delivery methods

With support from the World Bank, AccesBanque Madagascar (ABM) augmented its branch network by opening two "maxi" service outlets in small towns and five "mini" outlets in remote locations in Madagascar. The maxi outlets handle cash, sell a range of products and open new accounts while the mini outlets operate only on market days and limit their services to applications for new account opening. To enable agricultural warehouse lending (whereby farmers physically pledge their produce to enable them to wait for market prices to increase), ABM also opened two warehouses to store farmers' commodities. They also partnered with poultry input and agricultural equipment suppliers to finance the purchase of their offerings. Significant employee training efforts were undertaken to prepare them to lend to farmers. As the result of the initiatives, ABM was able to grow its agricultural clientele from under 1,000 in 2010 to over 7,000 with agricultural loans accounting for 6% of the overall portfolio at the end of 2014.

ABM's rural expansion has not been without its challenges. Because the bank runs its own commodity warehouses, it has struggled to find a way to fix warehouse-related fixed costs during the agricultural off-season (the bank rents out the warehouses in the short term to cover some of the costs, but the differ-

[37] Mix Market (2015) *MFI Report OIBM* http://www.mixmarket.org/mfi/oibm

ence is still subsidized by other products). The poultry input and equipment supplier partnerships have also struggled - the former due to the poor quality of inputs provided and the latter due to the high cost of equipment (typical issues in value chain finance). Nonetheless, while ABM experienced a slight deterioration in its operating efficiency (in terms of cost compared to the loan portfolio), the ratio eventually rebounded, ending 2014 at 24% compared to 26% in 2010.The case of ABM shows that the use of value chain partnerships and value added services (through warehouse facilities), together with proper staff training can lead to a successful scale-up of agricultural lending, with significant effort needed to make value chain finance work.[38]

6.7 Culture

Continuous improvement systems

Organizations with continuous improvement cultures benefit from incremental changes made on an ongoing basis, and involve every employee, from the CEO to the line worker, in the improvement efforts. When used as a part of a long-term business strategy, continuous improvement techniques (sometimes referred to as "Kaizen" due to their Japanese origin and its use within the Six Sigma philosophy) can not only reduce operating costs, but also improve quality of service and help build long-term customer relationships.[39] Six Sigma, pioneered at Motorola in the 1980's and popularized by Jack Welch at General Electric, is a related concept, as both Kaizen and Six Sigma focus on quality and efficiency improvements starting at the front line.

Employees are trained to look for waste (process steps that take up time but do not add value) in the course of each workday and suggest improvement ideas as they arise, no matter how small. Improvement suggestions can be made by individual employees, through regular discussion groups (small department level groups), or through formal workshops (lasting up to five days), depending on the needs and preferences of the organization. Employees are systematically recognized and rewarded for their improvement suggestions. Continuous improvement systems typically generate small improvements, but foster better morale and employee buy-in, better product and service quality.

One of the major benefits of continuous improvement systems over the other measures discussed in this report is that the changes involved are not radical, and do not have the disruptive effects of organizational restructuring or major information system implementations. Examples of banking industry improvements made this way include:

- Reduction of the number of steps to open a checking account from 34 to 24 at ***Great Western Bank*** (a bank operating in seven Western states in the USA), with the improvement credited to the bank's cultural shift towards continuous improvement[40]
- Reducing the length of the mail-in account opening process from one month to five days within one week at ***DBS Bank Singapore*** through value stream process mapping and identification of waste with the use of the map[41]
- Improving the productivity of the ***Bank of New Zealand***'s account management department,

[38] World Bank Group (2014) *AccesBanque Madagascar Project Results and Lessons* http://agrifinfacility.org/sites/agrifinfacility.org/files/rjanka/390/ABM.pdf was referenced for this section, augmenting information gathered during onsite interviews.

[39] AugusLeader, Companies use Kaizen to improve (2013), http://archive.argusleader.com/article/20130116/BJNEWS07/130219031/Companies-use-kaizen-improve
Kaizen Institute, Feature Interview- Paul Cohen, DBS Bank, Singapore (2015), http://nz2013.kaizen.com/news/article-archive/a-g/feature-interview-paul-cobban-dbs-bank-singapore.html
New Zealand Herald, Kaizen and the Art of Subtle Change (2010), http://nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10629087
Randy Wood, Scorecards Help African Bank Reap Savings (2005), http://isixsigma.com/consultants/balanced-scorecard-consultants/scorecards-help-south-african-bank-reap-savings/

[40] AugusLeader (2013) *Companies Use Kaizen to Improve* http://archive.argusleader.com/article/20130116/BJNEWS07/130219031/Companies-use-kaizen-improve

[41] Kaizen Institute (2015) *Feature Interview – Paul Cobban, DBS Bank, Singapore* http://nz2013.kaizen.com/news/article-archive/a-g/feature-interview-paul-cobban-dbs-bank-singapore.html

which processes tasks for business, agribusiness, and private banking clients, by 40% (this is just one example of the many improvements implemented at Bank of New Zealand – between 2006 and 2010, 20% of over 22,000 suggestions for improvement were implemented)[42]

A major insight of the continuous improvement approach is that employees involved in the respective processes can easily identify solutions for operational efficiency improvement, and that formal, open lines of communication for improvement suggestions are the key to taking advantage of employee insights.

Branch visits conducted as a part of this study revealed many instances of employees readily knowing what changes can be made to simplify processes (typically by removing steps that do not add value), but not having a formal means and the right cultural environment to report the improvement suggestions. Some of the more common actions for involving employees in the communication process included:

- Regular (weekly, monthly, quarterly, bi-annual) collection of problems and solutions from employees (both in formal, written form and informal forms such as calls and at meetings)
- Creation of working groups with personnel from head office and employee from braches

Because many efficiency improvement solutions arising from continuous improvement systems in banks yield shorter turnaround time for various processes, they often have the benefit of also improving customer satisfaction and creating a competitive advantage for the institutions using them. Employee job satisfaction is usually positively affected by continuous improvement systems, with changes generally making jobs easier and opening up opportunities for employees to focus on higher value added activities. This is likely to reduce staff turnover rates.

Methodology departments

One constraint to process improvement identified during site visits conducted for this study is the lack of strong methodology departments in many of the institutions. Though some of the banks visited had established methodology teams, the teams were not sufficiently empowered to change processes and drive continuous improvement. Others did not have methodology departments at all. While only larger institutions may be able to justify dedicating personnel to documenting processes, proposing changes as organizational needs change, and collecting and implementing suggestions for improvement, each micro lender would benefit from dedicating some employee resources to these tasks at least on a part time basis. Creating continuous improvement events, as described above, is one way of addressing this need inexpensively in a smaller organization.

6.8 Operational Efficiency in Agricultural Lending

Providing financial services to agricultural clients presents a special challenge in terms of operational efficiency. Agricultural businesses (producers, processors, and other value chain members) tend to be located in rural areas, requiring loan officers to travel long distances to inspect clients' businesses and collateral. Farmer incomes are generally seasonal, driven by harvests, and therefore uneven, standard loans with even repayment graphics less than appropriate for their needs. Their incomes also tend to be more volatile, given the risks associated with agricultural production (weather, market prices, etc.) To address these issues, financial institutions must invest in additional infrastructure (branches or non-branch distribution alternatives), develop specialized underwriting and monitoring methodologies, train their loan officers in the particularities of agricultural finance, and implement specialized risk frameworks. If not managed correctly, the functions described above may mean significant additional costs for an institution, bringing down overall operational efficiency. As discussed above, Bai Tushum saw a significant benefit in diversifying away from agricultural lending in part to better manage its costs. AccesBanque Madagascar (ABM), also visited for this study, has on the other hand chosen to expand into agriculture.

[42] New Zealand Herald (2010) *Kaizen and the Art of Subtle Change*
http://nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10629087

With support from the World Bank, ABM augmented its branch network by opening two "maxi" service outlets in small towns and five "mini" outlets in remote locations in Madagascar. The maxi outlets handle cash, sell a range of products and open new accounts while the mini outlets operate only on market days and limit their services to applications for new account opening. To enable agricultural warehouse lending (whereby farmers physically pledge their produce to enable them to wait for market prices to increase), ABM also opened two warehouses to store farmers' commodities. They also partnered with poultry input and agricultural equipment suppliers to finance the purchase of their offerings. Significant employee training efforts were undertaken to prepare them to lend to farmers. As the result of the initiatives, ABM was able to grow its agricultural clientele from under 1,000 in 2010 to over 7,000 with agricultural loans accounting for 6% of the overall portfolio at the end of 2014 (vs. 0% in 2010).

ABM's rural expansion has not been without its challenges. Because the bank runs its own commodity warehouses, it has struggled to find a way to fix warehouse-related fixed costs during the agricultural off-season (the bank rents out the warehouses in the short term to cover some of the costs, but the difference is still subsidized by other products). The poultry input and equipment supplier partnerships have also struggled - the former due to the poor quality of inputs provided and the latter due to the high cost of equipment (typical issues in value chain finance). Nonetheless, while ABM experienced a slight deterioration in its operating efficiency (in terms of cost compared to the loan portfolio), the ratio eventually rebounded, ending 2014 at 24% compared to 26% in 2010.The case of ABM shows that the use of value chain partnerships and value added services (through warehouse facilities), together with proper staff training can lead to a successful scale-up of agricultural lending, with significant effort needed to make value chain finance work.[43]

Value chain finance can be instrumental in reducing customer acquisition costs and improving efficiency via partnerships with input and mechanization suppliers and potentially reduce the risk of default through farmer training and other value added services provided by the partners, but these benefits are largely dependent on the quality of the value chain. Other tools that can improve the feasibility of agricultural lending include:

- Automated farmer and crop data collection systems, such as those provided by TechnoServe's coffee initiative[44]
- Specialized agricultural customer relationship management systems, as utilized by the Opportunity International Network[45]
- Creative customer acquisition strategies such as those used by FINCA Tanzania (simplified group lending procedures and groups mixed with non-agricultural customers for risk diversification[46])
- Cross-selling of products such as payments and savings to leverage customer acquisition costs, as implemented by Banco Terra of Mozambique[47]

Most of the efficiency measures discussed in other sections of this report, such as the use of tablets for information collection and data transfer in the field, agent and mobile banking, risk based credit assessment, and others, are relevant in the agricultural finance context. Additionally, by helping institutions improve efficiency in other types of lending, these measures enable them to expand their business to agriculture by freeing up capacities and resources.

[43] World Bank Group (2014) *AccesBanque Madagascar Project Results and Lessons* http://agrifinfacility.org/sites/agrifinfacility.org/files/rjanka/390/ABM.pdf was referenced for this section, augmenting information gathered during onsite interviews.

[44] See TechnoServe (2015) *TechnoServe Coffee Initiative* http://technoserve.org/files/downloads/june2010coffeeinitiative.pdf for details

[45] Information from the Presentation to World Bank Group, by Diana Cazacu: Introduction to rural finance, reaching more of Africa, November 2010, http://agrifinfacility.org/sites/agrifinfacility.org/files/Banco%20Oportunide%20de%20Mocambique%20-%20Opp%20Intl.pdf

[46] Pamoja product (Rural group loan product) was introduced by FINCA Tanzania in April 2015, with assistance from AdVision Finance consultants

[47] Banco Terra Mozambique signed a five year (2011-2016) partnership with Mozambique Leaf Tobacco to provide payment and savings services to approximate 100,000 tobacco farmers

7 Conclusions

Operational efficiency is at the heart of a successful financial institution that is geared toward providing microfinance lending to clients — especially those clients that are often excluded by more traditional lenders, i.e. low-income clients or smallholders. Continuous improvement of operational efficiency provides considerable benefits to all stakeholders of a financial institution through the achievement of sustainable growth, an increased outreach to marginalized clientele with more diverse products and services, and the reduction of interest rates.

This study identifies six categories of methods that present financial institutions with opportunities to increase operational efficiency. These are:

- **Value proposition changes** — changing an institution's business model to serve more profitable customer segments, offer less labor-intensive products, and/or exclude riskier clients
- **Organizational structure optimization** — streamlining procedures to eliminate redundancies and bottlenecks
- **Process optimization** — removing steps in processes that do not add value and automating other steps
- **Technology implementation** — a well-directed use of technology for driving customer self-service for routine transactions
- **Alternative delivery channels** — reduce the cost of routine transactions by moving them outside branches to other channels such as agent banking and mobile branches
- **Company culture** — empowering employees to regularly suggest and implement small improvements

It must, however, be kept in mind that operational efficiency should never be pursued single-mindedly or only within one category. Maximizing efficiency in one area may affect others, and efficiency improvement measures often cut across two or more areas of intervention. As with any change, there are always some risks that must be kept in mind and dutifully managed as efficiency improving measures are planned, proposed and implemented in order to keep overall disruption to a minimum and employee morale and customer satisfaction at a maximum. Careful planning, sequencing and coordination in undertaking any change(s) at a financial institution will ensure a proper balance is struck between optimizing operational efficiency, institutional goals and missions, and the potential future impact of any efficiency measures undertaken.

As the financial sector stabilizes from the 2008 crisis, the notion of change and advancing efficiency-increasing measures are declining. In this environment, the role of donors, Development Finance Institutions and other double bottom line investors in microfinance in encouraging their partner financial institutions to work on efficiency improvements becomes even stronger. Breaking through the "invisible plateau" of operational costs is not only important to microfinance lenders for ensuring long term profitability and growth but also to the development finance community for accomplishing its goal of financial inclusion - an equal access to a broad range of professional and affordable financial services for all.

Annex 1. Quick PFI Efficiency Scoring Rubric[48]

Quick PFI Efficiency Scoring Rubric

From the dropdown list next to each question, select the answer that best describes the subject financial institution.

Value Proposition	
Has the year-end ratio of operating costs to the gross loan portfolio gone up or down by more than 20% in the past 3 years?	*Select*
Has the average number of borrowers per loan officer (as of end of each year) gone up or down by more than 20% in the past 3 years?	*Select*
Has the average number of borrowers per branch (as of end of each year) gone up or down by more than 20% in the past 3 years?	*Select*
Organizational Structure	
Are reporting lines clear to employees, and does the organizational chart reflect the reporting lines used in practice?	*Select*
Does the organizational chart show apparent bottlenecks? [1]	*Select*
Do several positions on the organizational chart appear to cover the same duties?	*Select*
Process	
What is the time to money[2] for the simplest loan offered, such as a small microloan?	*Select*
How many times are the same forms and client data checked before the loan is approved?	*Select*
How many paper forms are used in the credit process?	*Select*
Are any functions within the credit process centralized? [3]	*Select*
Technology	
How many systems are used in the institution, including the core banking system?	*Select*
Is duplicate data entry into multiple systems required for common processes, i.e. the loan process? [4]	*Select*
Is there an IT srategy and is it understood and agreed upon by all members of management?	*Select*
Delivery	
Can customers make a deposit without visiting a full branch? [5]	*Select*
Can customers make a loan payment without visiting a full branch?	*Select*
Can customers apply for and receive a new loan without visiting a full branch?	*Select*
Culture	
How many examples of optimization measures undertaken in recent years can management name?	*Select*
Is there a system for collecting cost saving or service quality suggestions from employees?	*Select*
Can management give an example of an action taken based on such a suggestion?	*Select*
Are employees rewarded for improvement suggestions (financially or through recognition)?	*Select*
Overall score:	*Please complete all options above*

Reset choices

Scores of 51 through 64: The institution appears to be making efforts to operate efficiently.
Scores of 28 through 50: Several clear opportunities to improve operational efficiency exist.
Scores of 20 through 27: The institution is unlikely to be operating efficiently. An in-depth analysis and significant improvements may be required.

[1] When a certain employee is the sole connector between different teams in the networks (again ABA), or when a certain organizational unit connects other units.Example: many functions reporting to the same executive. Best-case scenario is when front office, risk management and back/middle office report to 3 different management members.

[2] Time to money is defined as the amount of time it takes for a loan to be disbursed from the time of application

[3] The following functions can be centralised (in head office) within the credit process: credit analysis and approval, loan processing, loan disbursement, loan repayment processing (for group loans), collection. When any of these functions are centralised in head office, the answer to the question is "Partially". If all of them are centralised in head office, the answer would be Yes.

[4] Example: the branch staff enters the loan data in one system and head office credit analysis department enters the same data in a different system

[5] Example: the customers can make deposits on a cash-in machine, an ATM, an agent - which usually are closer to their home than a branch

[48] Tool is available in Excel at KfW upon request. For this purpose, please contact Ms. Dr.Carmen Colla (carmen.colla@kfw.de).

Annex 2. Six Case Studies: Institutions and National Contexts

Table 10. Overview of six case study banks, as of 2014

	AccessBank, Azerbaijan	AccèsBanque, Madagascar	ACLEDA, Cambodia	Bai Tushum, Kyrgyzstan	FINCA, DR Congo	Socremo, Mozambique
Asset size, USD million	1,339	45	3,052	135	73	39
Loan portfolio size, USD million	1,051	33	1,994	106	57	26
Average loan size	4,099	1,042	5,440	3,010	476	1,996
Market share	leading provider of microloans	18.5% of loans (microfinance sector)	21.5% of loans 22.6% of deposits	6.9 % of loans (banking sector)	Second by loan portfolio (microfinance sector)	One of two major microfinance providers
Date founded	2002	2006	1993	2000	2003	1998
Number of branches	44	26	252	17 (+48 outlets)	18 (+500 POS agents)	14
Number of employees	2,184	670	11,000	804	789 (+500 POS agents)	366
Number of depositors	221,914	147,808	1,424,590	33,134	223,589	39,650
Number of borrowers	156,400	31,388	366,562	28,847	119,564	12,987
Portfolio by client segment	Micro 44% SME 41% Retail 10% Mortgage 3% Staff 2%	Express, micro 69% SME 24% Agro 6% Staff 1%	Micro 10% SME 68% Other 15% Consumer 7%	Micro 22% SME 44% Other 24% Consumer 9% Corporate 1%	Micro 98% Staff 2%	Micro 40% SME 47% Other 7% Consumer 5% Construction 1%
Time to money for micro loans	1–3 days	3–5 days	up to 3 days	about 1.5 days	3–4 days	4–5 days
Credit process centralization	decentralized	decentralized	decentralized	partially centralized	centralized	decentralized
Cost/income ratio (operating expense/ operating income)	59%	62%	52%	68%	81%	55%
Cost/loan portfolio	9.50%	24%	6%	12%	39%	27%
Borrowers per loan officer	231	111	191	144	338	89
Borrowers per branch	3,627	1,495	1,449	437	7,473	928
PAR 30 days	0.8%	4.6%	0.4%	1.4%	1.8%	2.2%
Return on assets (ROA)	4.1%	3.89%	2.7%	2%	2.3%	4.8%
Net interest margin (NIM)	11.3%	22%	9.9%	14%	33%	24%
Yield on portfolio	20.7%	4.61%	13.1%	22%	42%	43%

Sources: MixMarket, Banks Audited Reports

Table 11. Overview of national contexts

Country, 2014	Azerbaijan	Madagascar	Cambodia	Kyrgyzstan	DRC	Mozambique
Population density per square kilometer	115	41	87	30	33	35
Infrastructure world rank[49]	125	132	83	149	159	147
Credit bureau population coverage	28.7%	0.2%	29.3%	38.2%	0.2%	5.7%
Regulatory barriers (prudential mini-mums and restrictions)	None unusual	None unusual	Liquid assets at 25% of voluntary savings	15% NBFI[50] loan rate cap	None unusual	None Unusual
Maturity of financial market (domestic credit to GDP)[51]	33.8%	16.8%	47.4%	15.9%	8.6%	36.2%
Market interest rates[52]	14.7%	26.3%	14.0%	11.9%	26.6%	34.9%

[49] World Bank (2014) *Logistics Performance Index* http://lpi.worldbank.org; out of 160 countries ranked
[50] The cap applies to non-bank financial institutions such as MFIs, but not banks.
[51] World Bank Data (2014), *Domestic Credit Provided by Financial Sector (% of GDP)* data.worldbank.org; mature markets typically exceed 100%
[52] Mix Market (2013), *Yield on Gross Portfolio (real, weighted average)* http://mixmarket.org

Annex 3. Summary of Studies Consulted for this Report

Subject	Title	Author(s)	Key Insights
Larger Loan Size	Defining Responsible Financial Performance: Understanding Efficiency (2011)	MixMarket	• Loan size, age of MFI and scale are the main drivers of operating • Cost of living and staff salaries also make a difference • Other variables create comparison difficulties (education, entrepreneurship training, other sources of income and economic growth)
	http://themix.org/publications/microbanking-bulletin/2011/05/microfinance-efficiency		
Organizational Structure Change	Bank Mandiri's Transformation (2014)	Bank Mandiri	Streamlining the organizational structure, introducing a new core banking system, and reducing redundant branch coverage created a much leaner and more profitable organization.
	http://bankmandiri.co.id/english/corporate01/about_profile.asp		
	Microfinance core MIS systems – the business case for outsourcing (2008)	USAID	Introduction of Baker Hill CRM system at the Eagle Bank (USA) allowed for 25% cost savings due to consolidation of two operating systems and reduction of IT staff, hardware and disaster recovery costs.
	http://pdf.usaid.gov/pdf_docs/Pnadn212.pdf		
Process Optimization	Building Operational Excellence as a Core Differentiator (2014)	MicroSave	Process re-engineering, a new core banking system, staff specialization, and a new incentive system, and a focus on service quality improvement allowed OK Bank, Madagascar to reduce costs by 30% and improve revenue growth.
	http://microsave.net/files/pdf/1393908875_BN_148_Building_Operational_Excellence_As_A_Core_Differentiator.pdf		
	Industrializing Back Offices: The onset of Banking Factories (2010)	Eurogroup Consulting	Factory-style back offices at Western retail banks, including Banco Sabadell of Spain is shown to improve service quality through standardized processes and specialized personnel, reducing errors and processing time, personnel costs (by 15–30%), and fixed costs through economies of scale.
Technology	A fully cloud-based micro financing organization (2014)	Temenos	Introduction of the Temenos SaaS Solution for the Nigerian consumer lender RenMoney allowed the organization to reach 18,000 customers in two years.
	http://docplayer.net/14837520-Case-study-renmoney-a-fully-cloud-based-microfinancing-organisation.html		
	A Handbook for Developing Credit Scoring Systems in a Microfinance Context (2006)	USAID	Credit scoring speeds up decision making by about 60%, helps with market segmentation, pricing, and risk strategies, as well as improving collection practices through collection scoring (based on case studies).
	http://microlinks.org/sites/microlinks/files/resource/files/ML4626_credit_scoring_systems_handbook.pdf		
	Automating Microfinance: Experience in Latin America, Asia and Africa (2001)	Anita Campion, Sahra Halpern	Benefits of technology implementation include reducing transaction costs (ATMs, Credit Cards, Debit Cards, and Smart Cards) and making data entry more efficient and less prone to human error through PDAs.
	http://centerforfinancialinclusionblog.files.wordpress.com/2011/10/automating-microfinance.pdf		

Subject	Title	Author(s)	Key Insights
Technology	Bank Andara Turns to VMware to Help Make Banking Services Accessible to the Disadvantaged in Indonesia (2012)	VMware	The VMware cloud IT infrastructure allowed Bank Andara of Indonesia save USD 4,000 on hardware and reduce cooling costs by 75%.
	Bit Loans (2013)	The Economist	Completely cashless loans provided through MPesa by Musoni in Kenya are convenient and more secure for customers and cost-effective for the lender.
	http://economist.com/blogs/schumpeter/2013/02/microfinance		
	Credit Scoring in Microfinance (2008)	Opportunity International	Credit scoring can improve loan officer productivity, but has limited applicability for group lending.
	http://www.microfinancegateway.org/library/credit-scoring-microfinance		
	Credit Scoring in Microfinance (2003)	Women's World Banking	Credit scoring can improve efficiency both before and after a loan is dispersed (affecting the monitoring process), but cannot fully replace credit analysis in the case of microfinance
	http://microfinancegateway.org/sites/default/files/mfg-en-paper-credit-scoring-in-microfinance-guidelines-based-on-experience-with-wwb-affiliates-in-colombia-and-the-dominican-republic-oct-2003.pdf		
	Fastest Growing Microfinance Institution Reliably Scales With Temenos (2010)	Temenos	Introduction of the T24 operating system at Equity Microfinance (India) improved back office staff productivity by 60% and allowed for a 2.5 times increase in the client base within a year.
	http://temenos.com/documents/mi/cs/cs-equitas-microfinance.pdf		
	Technoserve Coffee Initiative (2015)	Technoserve	Financing alone is not the optimal way to develop an agriculture sector – a value chain approach is needed (discussed in the framework of Technoserve's automated crop and farmer data collection technology).
	http://technoserve.org/files/downloads/ISF-briefing-9-case-study-coffee-initiative.pdf		
Alternative Delivery Methods	AccesBanque Madagascar Project Results and Lessons (2014)	World Bank	Value chain financing is difficult to implement effectively, but the use of non-branch distribution channels and proper staff training can lead to a successful scale-up of agricultural lending.
	http://agrifinfacility.org/sites/agrifinfacility.org/files/rjanka/390/ABM_FINAL.pdf		
	Bank on Wheels: A case study of Dakshina Kannada District (2014)	Divya Prabhu	A bank-on-wheels costs EUR 26,000 and can drive significant deposit growth and modest loan growth.
	http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2528982		

Subject	Title	Author(s)	Key Insights
Alternative Delivery Methods	Branchless Banking and Rural Outreach in Malawi: Opportunity International Bank of Malawi's Impact on the Market (2011)	Michael Ferguson	Satellite branches, POS terminals, and mobile vans, and mobile banking can improve outreach to rural areas.
	http://fsassessment.umd.edu/publications/pdfs/Malawi-Financial-Landscape-Endline.pdf		
	Expanding outreach in Malawi: OIBM's Efforts to Launch a Mobile Phone Banking Program (2009)	USAID	An internally developed mobile banking service can work in tandem with other outreach efforts.
	http://opportunity.org/content/News/Publications/Knowledge%20Exchange/Expanding%20Outreach%20in%20Malawi-OIBM%E2%80%99s%20efforts%20to%20launch%20a%20mobile%20phone%20banking%20program.pdf		
	Microfinance and Mobile Banking: Blurring the lines? (2013)	CGAP	• Mobile banking is effective in mobilizing deposits and increasing outreach due to convenience, and reduces staffing costs. It may also increase revenues if fees are charged for mobile services. • Mobile banking increases IT costs, and its implementation presents risks (cases of write-offs are noted).
	http://cgap.org/publications/microfinance-and-mobile-banking-blurring-lines		
	Mobile Banking Case Studies (2010)	Tower Group	• Mobile banking implementation costs USD 300,000–2.1 million in retail banks. • Customer adoption can reach up to 80% (best case) for an undiscounted ROI of up to 600%.
	Mobile Financial Services for Microfinance Institutions: Case Study of Easypaisa and Tameer in Pakistan (2013)	Aiaze Mithe, IFC	Developing an in-house mobile wallet platform is costs the same as using a third party solution, but presents a longer learning curve.
	http://ifc.org/wps/wcm/connect/1f78718047c345c9964cf7299ede9589/Tool+11.3+Mobil+Finan+Serv+Tameer+in+Pakistan+1-29-15.pdf?MOD=AJPERES		
Continuous Improvement	Companies use Kaizen to improve (2013)	AugusLeader	Kaizen methodologies can help banks remove process **waste** and streamline operations for lower costs and better quality.
	http://archive.argusleader.com/article/20130116/BJNEWS07/130219031/Companies-use-kaizen-improve		
	Efficiency Drivers of MFIs: the Role of Age (2009)	CGAP Brief	• The ratio of operating costs to the loan portfolio improves the most significantly in an MFI's first six years of operations, and economies of scale are the most pronounced until the first 2,000 customers are reached. • Cross-selling of new products (potential mission drift) and improved customer retention are common for more mature MFIs. • Efficiency may improve further as MFIs offer savings, insurance, and money transfers.
	http://cgap.org/publications/efficiency-drivers-mfis-role-age		

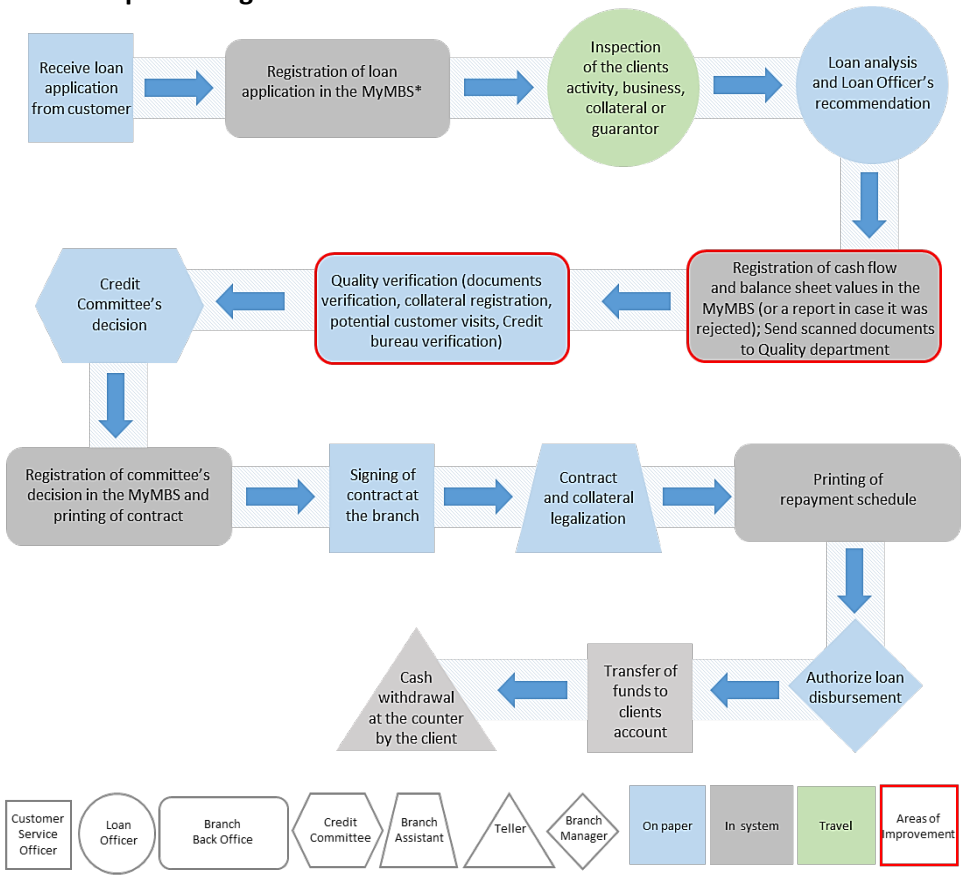
Subject	Title	Author(s)	Key Insights
Continuous Improvement	Feature Interview- Paul Cohen, DBS Bank, Singapore (2015)	Kaizen Institute	Many of the activities performed by bank staff do not add customer value. Kaizen methodologies can reveal the process waste created by non-value added activities.
	http://nz2013.kaizen.com/news/article-archive/a-g/feature-interview-paul-cobban-dbs-bank-singapore.html		
	Increasing staff productivity in agricultural finance (2014)	MicroSave	Loan officer productivity, measure through the number of clients and portfolio size, was improved through a KPI system for disbursements and collections at TSPI NGO in the Philippines.
	http://microsave.net/files/pdf/BN_151_Increasing_Staff_Productivity_in_Agriculture_Microfinance.pdf		
	Kaizen and the Art of Subtle Change (2010)	New Zealand Herald	Kaizen methodologies generated more than 22,000 employee suggestions at a major bank in New Zealand, of which 20% were implemented.
	http://nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10629087		
	Scorecards Help African Bank Reap Savings (2005)	Randy Wood	Process Mapping helped identify duplication of steps and uncovered process waste that went unnoticed otherwise, resulting in USD 65 million in savings over a four-year timeframe.
	http://isixsigma.com/consultants/balanced-scorecard-consultants/scorecards-help-south-african-bank-reap-savings/		
	Study on Interest Rates and Costs of Microfinance Institutions (2011)	Small Industries Development Bank of India	• While a direct link between technology implementation and cost reduction cannot be observed (based on information collected from 30 MFIs in India), technology can help with scaling effectively. • Cost reduction initiatives may negatively influence client service quality and customer relationships.
	http://mixmarket.org/sites/default/files/final_sidbi_report.pdf		
Empirical Analysis and Academic Studies	A study of the efficiency of Micro Finance Institutions Using Data Envelopment Analysis (2014)	T.R. Singh	Controlling for variables such as risk (PAR30), outreach, and financial efficiency "normalizes" MFI efficiency ratios, disputing the general perception that MFIs operate inefficiently.
	http://worldwidejournals.com/ijar/file.php?val=November_2014_1416810827__91.pdf		
	Commercialisation and Efficiency of Microfinance Institutions in Sub Saharan Africa (2013)	Francis Awuku Darko	Commercialization and the age of the MFI correlate positively with efficiency, while urbanization and global crises correlate negatively.
	http://uea.ac.uk/documents/425303/4065543/Darko,%20Francis+Awuku.pdf/7ce2ef6f-7381-458d-b51a-e9331c1b7bf7		
	Cost efficiency and outreach of microfinance institutions in Ethiopia: Do they contrast with financial cooperatives? (2014)	Abate, Borzaga and Getnet	Higher loan size and a smaller proportions of female borrowers correlate positively with operational efficiency (counter to typical financial inclusion goals), and financial cooperatives operate more efficiently than specialized MFIs.
	http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2402607		

Subject	Title	Author(s)	Key Insights
Empirical Analysis and Academic Studies	Efficiency Analysis of Microfinance Institutions in Developing Countries (2009)	Hassan and Sanchez	Banks and formal MFIs operate more efficiently than informal MFIs, and the source of inefficiency is technical (waste of resources or insufficient revenue production) and not related to scale. South Asian MFIs operate more efficiently than Latin American and MENA MFIs.
	http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1492238		
	Efficiency Drivers of Microfinance Institutions (MFIs): The Case of Operating Costs (2007)	Gonzalez	The main drivers of MFI efficiency are average loan size, the institution's age, and the scale on which it operates (all correlate positively with efficiency), but cost reductions disappear once 2,000 borrowers are reached. Improvement in financial infrastructure in the subject country, especially in credit information systems, and reduction in local inputs such as the cost of phone lines also significantly improve efficiency.
	http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1400484		
	Efficiency of Microfinance Institutions in East Africa: A Data Envelopment Analysis (2012)	Kipesha	Better allocation of input resources and reduction in process waste significantly improves efficiency. Banks and NBFIs are more efficient than NGOs and cooperatives.
	http://iiste.org/Journals/index.php/EJBM/article/view/3204		
	Efficiency of microfinance institutions in Sri Lanka: a two-stage double bootstrap DEA approach (2015)	Wijesiri, Vigano, Meoli	The institution's age and the ratio of capital to assets are significant determinants on financial efficiency, whereas the institution's age, type, and return-on-assets are the crucial determinants of social efficiency of financial institutions in Sri Lanka.
	http://sciencedirect.com/science/article/pii/S0264999315000334		
	Efficiency of Microfinance Institutions: A Data Envelopment Analysis	Haq, Skully, Pathan	NGO MFIs are the most successful in alleviating poverty while achieving financial sustainability, while bank MFIs may outperform NGOs in the long run.
	http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1405709		
	Financial Sustainability of Rural Microfinance Institutions (MFIs) in Tanzania (2010)	Nyamsogor (2010)	Larger loans improve profitability but reduce the breadth of outreach. Financial sustainability (driven by a number of factors) improves the breadth of outreach.
	http://www.researchgate.net/publication/235734642_Performance_of_Microfinance_Institutions_in_Tanzania_Integrating_Financial_and_Non_financial_Metrics		
	Master Thesis: Efficiency drivers in microfinance institutions (2009)	Meberg, Krpo	Credit officer productivity, cost per employee, average loans outstanding, and the ratio of credit officers to other staff members significantly affects operating efficiency, while performance-based pay does not.
	http://brage.bibsys.no/xmlui/bitstream/handle/11250/135454/Meberg%20og%20Krpo.pdf?sequence=1		

Subject	Title	Author(s)	Key Insights
Empirical Analysis and Academic Studies	Microcredit Interest Rates and their Determinants 2004–2011 (2013)	CGAP	CGAP study published in 2013 found that in recent years, improvements in microlenders' average efficiency levels have decelerated, especially in mature markets. The report pointed out that over half of the average 27% in annual interest paid by microfinance clients goes towards covering lending institutions' operating expenses. Operating expenses are a stronger driver of high interest rates than the cost of capital, loan losses, and institutions' profit combined.
	http://cgap.org/sites/default/files/Forum-Microcredit-Interest-Rates-and-Their-Determinants-June-2013_1.pdf		
	Practice what you preach: Microfinance business models and operational efficiency (2013)	Bos and Millone	Pure for-profit and non-profit MFIs are more efficient than 'social' for-profit MFIs. In addition, efficiency decreases for all MFIs when they move away from their original business model. Increasing the risk of the loan portfolio reduces efficiency and lending to women increases efficiency. Finally, multiple loans to the same borrowers enhance efficiency, which may help explain the mission drift in microfinance.
	http://ideas.repec.org/a/eee/wdevel/v70y2015icp28-42.html		
	Social and financial efficiency of Islamic microfinance institutions: A Data Envelopment Analysis application (2015)	Widiarto and Emrouznejad	Islamic MFIs perform at par conventional MFIs.
	http://ideas.repec.org/a/eee/soceps/v50y2015icp1-17.html		
	Social and Financial Efficiency of Microfinance Institutions in Pakistan	Khan, Sulaiman	Different efficiency improvements are appropriate for different institution types (age, scale reached, and license type are variables). Nonetheless, reduction of operating costs, improvement of loan officer productivity, and better asset deployment are recommended for all institution types.
	http://pide.org.pk/psde/pdf/AGM30/papers/Social%20and%20Financial%20Efficiency%20of%20Microfinance.pdf		
	The cost structure of microfinance institutions in eastern Europe and central Asia (2006)	Hartarska, Caudill and Gropper	The presence of subsidies positively correlates with higher MFI costs. Measuring productivity in terms of the number of loans made, group loans and loans to women have lower costs per loan, and costs per loan reduce over time. Measuring productivity in terms of loan volume, group loans and loans to women are more cost intensive.
	http://core.ac.uk/download/files/158/3103165.pdf		
	The Measurement and Determinants of Economic Efficiency of Microfinance Institutions in Ghana: A Stochastic Frontier Approach (2011)	Oteng-Abaye, Amanor, Frimpong	Sustainability can be reached through better portfolio quality and diversified savings, with the aid of better technical training programs.
	http://african-review.com/Papers/Oteng%20et%20al.pdf		

Annex 4. Credit Process Maps

AccesBanque Madagascar – SME Credit Process

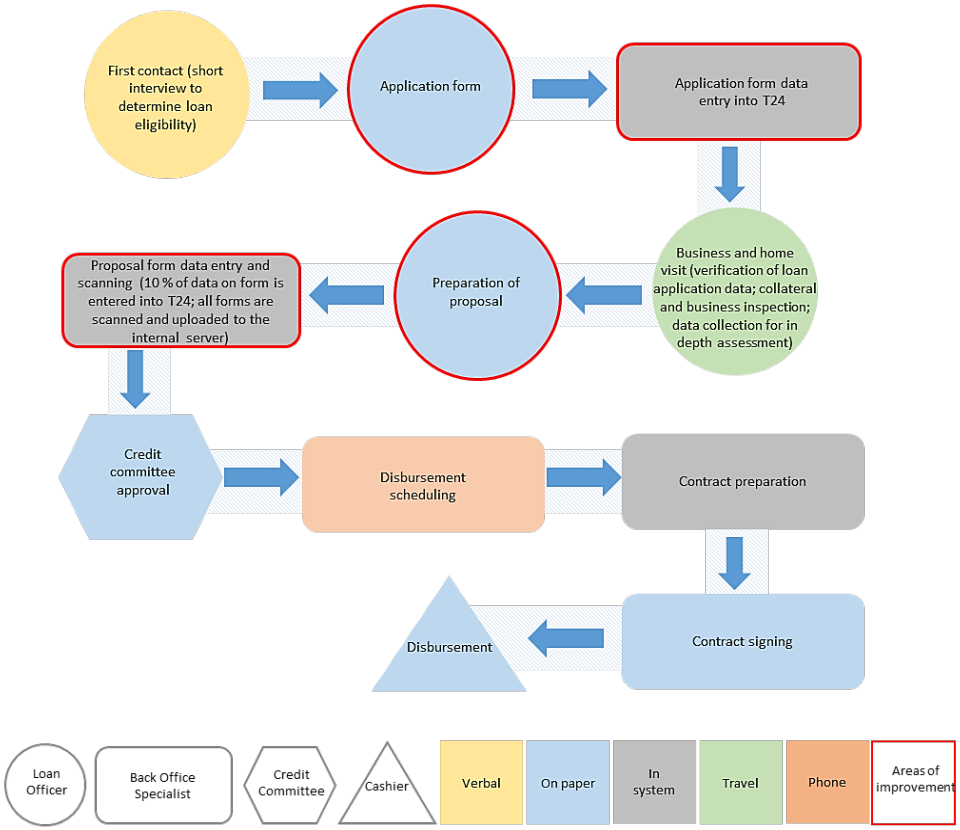


Note: MyMBS is the core banking system used by ABM

Recommendations:

- *Review the credit process and eliminate the duplicated steps and the delays in some steps (e.g. the quality department goes through a 77-item checklist for SME loans – some of these steps could be eliminated or automated. Hand-copying of information from a notebook to a paper form by loan officers could also be eliminated).*
- *Create a separate function for credit analysis instead of having this done by loan officers to reduce conflict of interest.*
- *Consider implementing a simplified credit process for the repeat loans.*
- *Consider strengthening the value chain financing approach within the agriculture product line, by developing sustainable partnership with the value chain players in the market.*
- *Consider implementation of tablets for loan officers in order to reduce time spent on data entry and processing. Biometric identification could also be used to increase efficiency and controls in the field (e.g. forms could be input filled out in the field and customer could sign documents using biometric identification).*
- *Automate the steps in the process driven by the system, such as credit history checks, and checks for uniqueness of relevant customer information (address, relatives).*
- *Automatically generate contracts directly through the system.*
- *Consider implementing a credit scoring/rating system.*
- *Create clear process maps for all credit processes, make an inventory of all work that is currently done on paper and stratify the process to eliminate any "waste" discovered.*

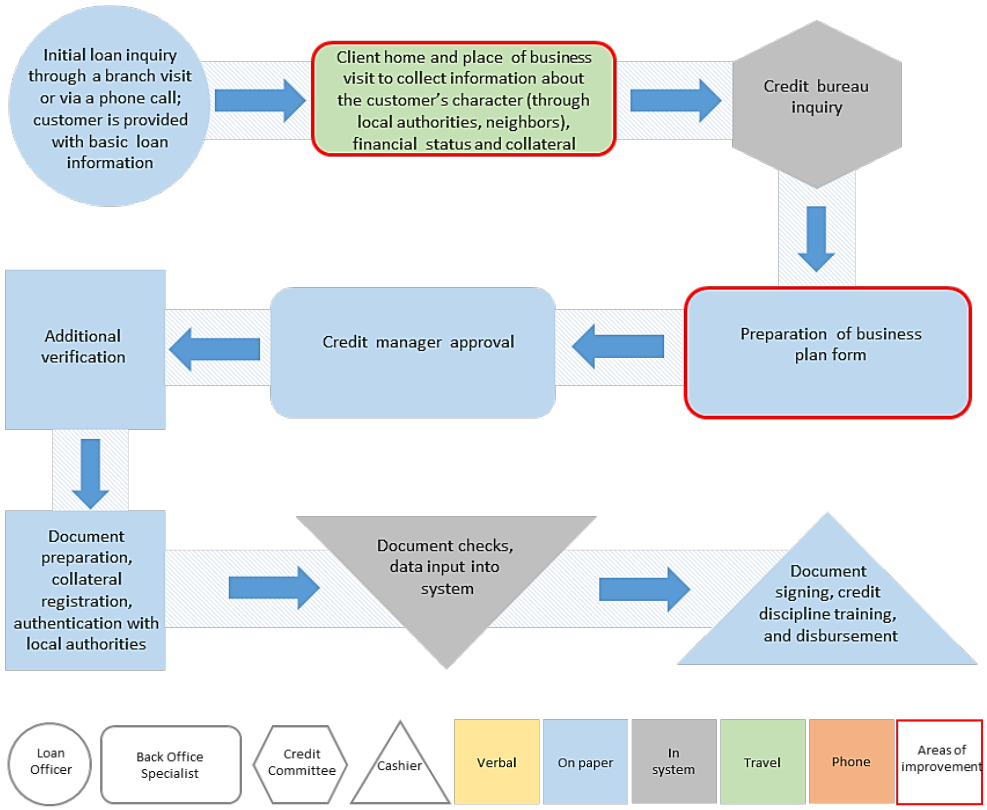
AccessBank Azerbaijan – Microloan Credit Process



Recommendations:

- *Create clear process maps for all credit processes, make an inventory of all work that is currently done on paper and stratify the process to eliminate any "waste" discovered*
- *Review the lending process to eliminate steps that take up the loan officer's time but do not add value, such as the hand copying of information that exists within databases and other forms. Create systems that pre-fill forms with information that exists within the bank's database as much as possible.*
- *Consider automating of data entry in the field by use of tablets or smart phones.*
- *Consider adjusting the lending process in a way that allows for as many steps in the borrower analysis to be done directly in the core operating system instead of on paper to eliminate the data entry step.*

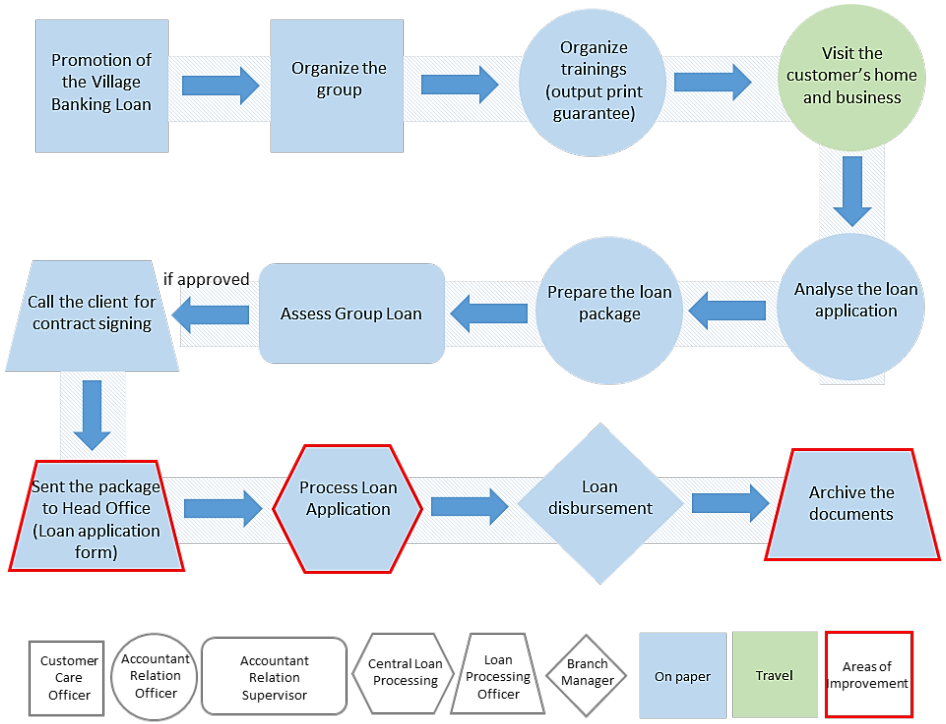
ACLEDA Bank Cambodia – Retail Credit Process



Recommendations:

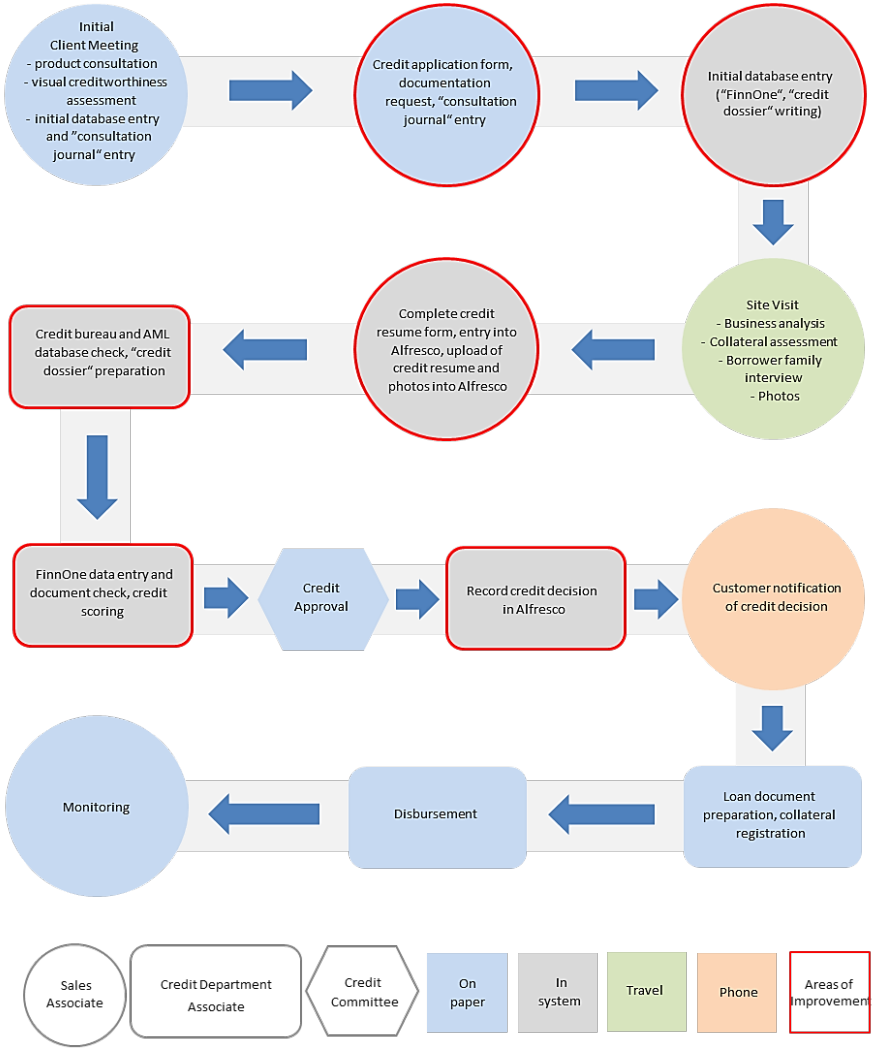
- *Streamline the forms used for the credit application process, eliminating any fields that are not used in practice or not relied upon for credit decisions, removing duplication of information, and ensuring that the format is user-friendly.*
- *Consider redesigning some of the forms to make them simple enough for some of the customers to handle on their own.*
- *Consider implementing tablets for recording customer information directly into the system, eliminating delays due to paper movement and data entry steps. As a lower-technology investment options, some credit analysis could be standardized through Excel templates.*

Bai Tushum Bank Kyrgyzstan – Retail Credit Process

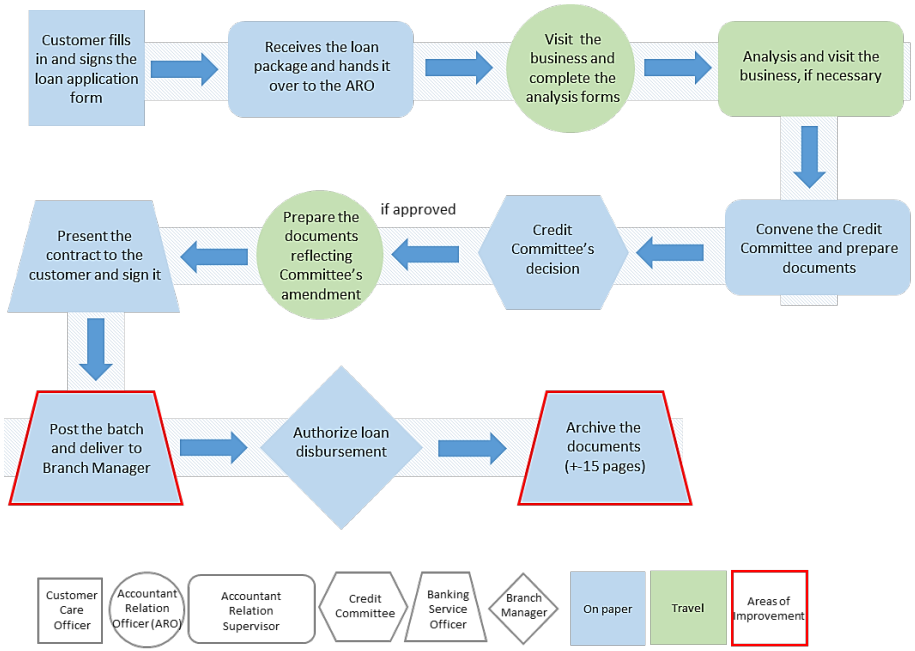


Recommendation: *In the information system conversion process (as described below), consider implementing technology to eliminate paper to the largest extent possible.*

FINCA DR Congo – Village Banking Loan Process



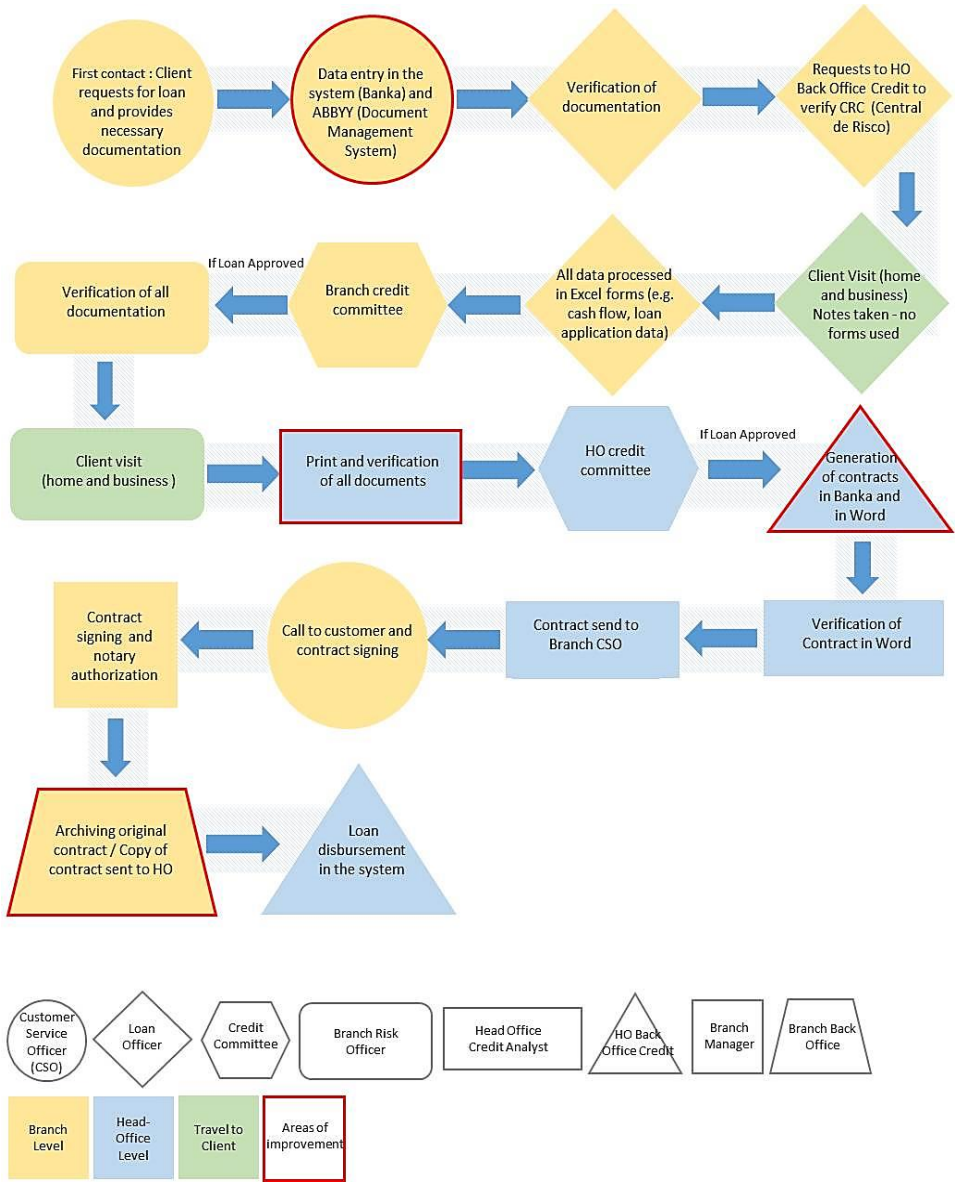
FINCA DR Congo – Individual Loan Process



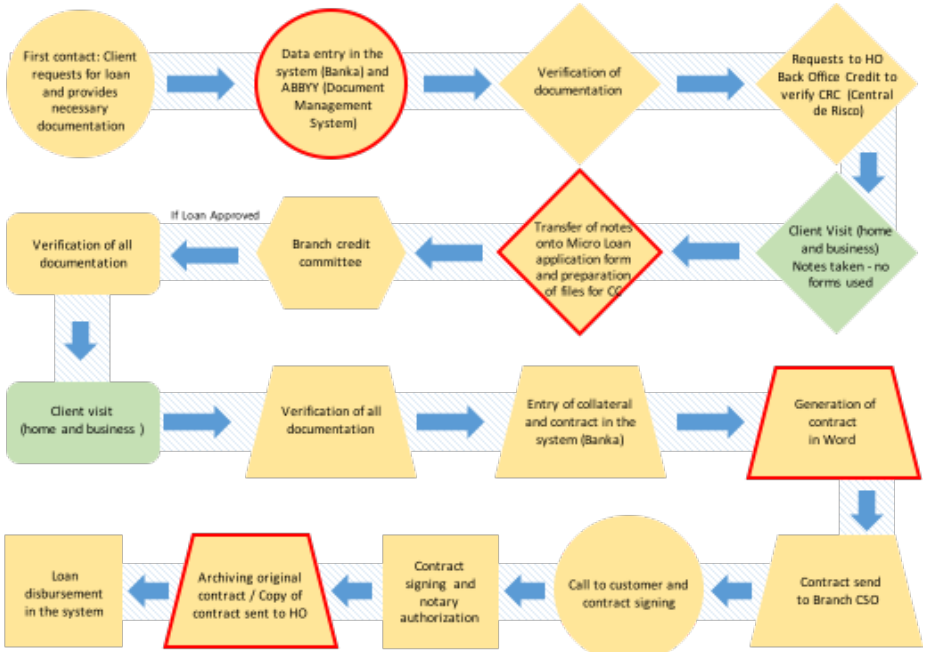
Recommendations:

- *Review the credit process to eliminate the duplicated steps and inefficiencies created:*
  - *Enable scanning of loan application documents into core banking system directly*
  - *Eliminate the verification by the credit analyst in the branches since credit supervisors perform another verification right afterwards*
- *Investigate ways to automate reconciliation of group loan repayments to each borrower account*
- *Investigate options for electronic file archiving rather than paper-based archiving*
- *Consider implementation of technology to improve turnaround time (to 48 hours for group loans and same day for individual loans – as per Finca DRC management target), e.g. tablets, automation of steps that can be verified by the system, e.g. credit history.*

Socremo Bank Mozambique – Micro Credit Process



Socremo Bank Mozambique – SME Credit Process



Recommendations:

- *Review the credit processes (Micro and SME), in order to eliminate the duplicated steps, improve processing time of others and/or reduce paper. Examples of improvements in the process are as follows:*
  - *Create systems and procedures that pre-fill forms with information that exists within the bank's database as much as possible, e.g. defaulting the customer's loan history from the core banking system (Banka) into the forms, in order to avoid manual hand writing of information from the core banking system*
  - *Eliminate paperwork by simplifying the forms or removing them, e.g. using the Excel sheet from SME process in micro loan process (simplified), printing of documents for SME loans replaced with electronic verifications*
  - *Consider implementation of technology to improve the turnaround time and increase control in the credit process (e.g. tablets for field data collection and credit scoring)*
  - *Automate steps in the process that can be verified by the system, e.g. credit history*
  - *Automate the creation and printing of the loan contract*
- *Implement more efficient processes for generating repeat loans*
- *Create clear maps for all credit processes, make an inventory of all work that is currently done on paper and stratify the process to eliminate any "waste" discovered*

Imprint

Publisher
KfW Group
KfW Development Bank
Palmengartenstrasse 5-9
60325 Frankfurt am Main, Germany
Telephone +49 69 74310
Fax +49 69 7431 2944
info@kfw-entwicklungsbank.de
www.kfw.de

Editing
Competence Centre
Financial Sector, Health & Education

Photos
Source: KfW photo archive, photothek.net