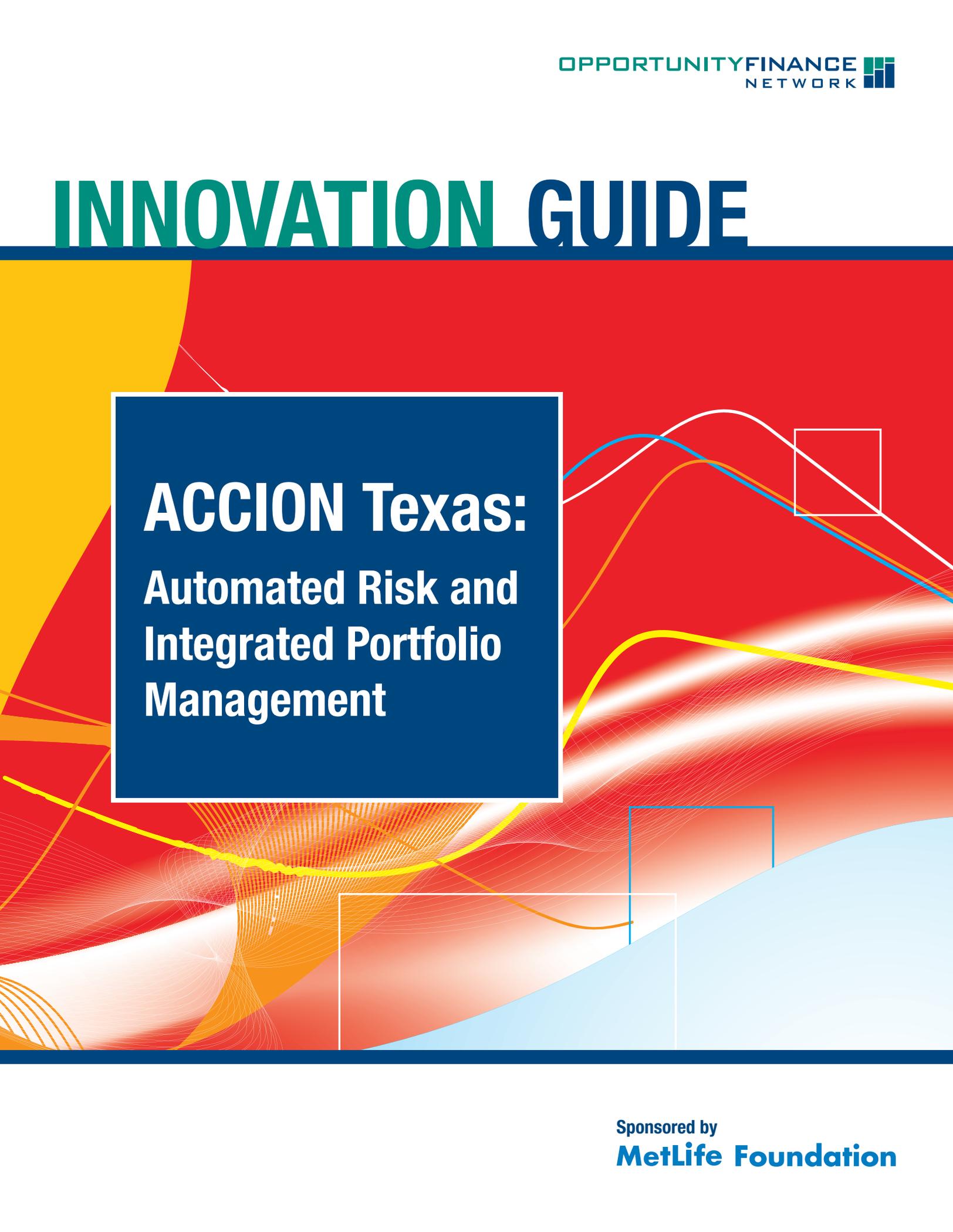


INNOVATION GUIDE



**ACCION Texas:
Automated Risk and
Integrated Portfolio
Management**

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ACCION Texas: **Automated Risk Rating and** **Integrated Portfolio Management**

—Disclaimer—

The content of this paper is the result of the collaborative efforts of Opportunity Finance Network and ACCION Texas. We cannot guarantee the validity of the opinions or the accuracy, reliability, or completeness of the information over time.

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About ACCION Texas

ACCION Texas is a nonprofit organization dedicated to providing credit to small businesses that do not have access to loans from commercial sources. Through its loans and services, ACCION Texas helps microentrepreneurs strengthen their businesses, stabilize and increase their incomes, create additional employment, and contribute to the economic revitalization of communities across Texas.

ACCION Texas was incorporated in San Antonio in 1994. Since then, it has grown to 40 employees and 10 offices statewide, disbursed more than \$62 million through 8,500 loans, and helped more than 5,500 small businesses in Texas.¹

The products that ACCION Texas offers can be grouped into microloans (\$500 to \$50,000), interest buy-down programs, limited or no-collateral programs, credit start loans, immigrant loans, and factoring. In 2007, ACCION Texas began offering SBA 504 loans, home mortgages, and Microloan Management Services.

Today, ACCION Texas has a portfolio of \$17 million and 1,700 active customers. An analysis of its economic impact conducted by an independent consultant firm in 2004 and 2006 revealed that each dollar invested in ACCION Texas's portfolio generates \$1.85 in direct and indirect economic activity, with a 60% social return on investment.²

¹ As of January 31, 2008.

² John Hockenyo, Economic and Community Impact of ACCION Texas, Texas Perspectives, 2006.

The Innovation: Microloan Management Services

The subject of this innovation guide is ACCION Texas's Microloan Management Services (MMS). The MMS is a Web-based service center that includes:

- Online loan application, integrated with
 - Specialized credit scoring,
 - Automated loan preliminary approval (or just automated pre-approval),
 - Underwriting,
 - Document preparation,
 - Portfolio management, and
 - Credit Bureau reporting.

The process flows electronically from loan application to loan payoff.

At the heart of the MMS is an automated scoring tool that rates borrower risk based on ACCION Texas's extensive data on borrower and repayment profiles. This scoring tool, combined with the MMS's other automated services, allows users to achieve impressive efficiencies through automated loan pre-approval while maintaining a commitment to borrowers who might not qualify for conventional loans.

All the components of the MMS were successfully integrated in 2007. To reach this stage, ACCION Texas invested close to \$500,000 and four years of hard work, while leveraging more than 13 years of microfinance experience. By applying the MMS to its own program, ACCION Texas has shown vast improvement in areas of operational efficiency, portfolio quality and size, number of borrowers, underwriting efficiency, and turnaround time.

Although ACCION Texas primarily developed the MMS to improve its own operations, it also had an eye on offering these services to other microenterprise organizations. In actuality, the MMS—as an entirely new business line—has become central to ACCION Texas's growth strategy. As of this writing (February 2007), ACCION Texas is commercially deploying the MMS.



Challenges to Self-Sufficiency and Portfolio Performance: The Evolution of the MMS

Organizational self-sufficiency and portfolio performance were key drivers for ACCION Texas to develop the MMS. Self-sufficiency, an important indicator of efficiency and operational health for community development financial institutions (CDFIs), can be increased by reducing expenses (the denominator) or increasing earned revenue (the numerator). Microenterprise funds can face exceptional challenges with either strategy.³ On the earned-revenue side, microenterprise funds tend to be relatively small, so the potential for increasing revenue from portfolio interest is limited. On the expense side, microenterprise loans can be relatively resource intensive to underwrite and to service per dollar amount closed. Sound portfolio performance is also essential for CDFIs to attract investors and collect revenue from portfolio interest, as microenterprise lenders expect higher defaults than do other CDFI loan funds.⁴

The MMS, in its current form, is the culmination of ACCION Texas's responses to a series of challenges common to many microenterprises as well as to other CDFI loan funds: portfolio performance, application and underwriting efficiency, loan management, and systems and software compartmentalization.

The Conception of the Scoring Engine and Service Center

In the summer of 2003, ACCION Texas had eight offices statewide, more than 30 staff members, and a portfolio of \$7.5 million. With its portfolio growing at an annual rate of 20%, ACCION Texas was experiencing growing pains. Revenues were growing slower than expenses, and 22% of the dollars disbursed were allocated in loans that would eventually default. Moreover, delinquencies were up, as were restructures and charge-offs. This scenario demonstrated the need for all the elements that would later constitute the MMS. It was during this time that Gustavo Lasala, then working as a Citibank Community Summer Intern, conceived of an automated scoring tool for ACCION Texas and validated that it was a viable means for reducing cost per transaction, improving risk management, and increasing the scale of operations.

With the help of two volunteers, Lasala gathered and cleaned customer information, including a number of demographic data points, obtaining complete information for 1,000 customers. Using this data and powerful statistical software, he developed a model that provided the probability of customer default at intake. When Lasala completed his internship in August 2003, he reported that the model had the potential to increase capacity by 50%, reduce the capital allocated in bad loans from 22% to 14%, and increase net income by 15%.⁵

In discussing the results of this project with the executive director, Janie Barrera, Lasala realized that the use of this tool to service satellite offices could be expanded to service third-party portfolios in and out of the state. With the appropriate infrastructure and systems, ACCION Texas could scale up, add additional services such as loan application and portfolio management, and work as a service center to help other organizations achieve sustainability by attaining economies of scale. One of the most important factors behind the service center idea was the fact that the San Antonio office was already working, though in a very labor-intensive fashion, as a service center for other ACCION Texas offices across the state. This meant that some of the necessary infrastructure was already in place.

3 The average self-sufficiency for Opportunity Finance Network Members who closed more than 70% of microenterprise loans in FY 2005 was 52%, whereas all other groups had an average self-sufficiency of 73%. These percentages reflect the number of loans closed, not capital lent.

4 Opportunity Finance Network Members whose predominant financing activity (at least 70% in terms of number of loans closed) in FY 2005 was microenterprise lending had net loan losses averaging 7%, whereas other loan fund Members experienced net losses averaging 1%.

5 Citibank 2003 Community Summer Intern Program Survey, Gustavo F. Lasala, August 2003.

Autoreview: Automated Preliminary Review of Loan Applications

When Lasala left ACCION Texas at the end of his internship, further development of the scoring engine was put on hold. Between January and March 2004, ACCION Texas took the set of risk-based underwriting guidelines that it was already using and automated them in a new tool called Autoreview. Autoreview was essentially an automated decision tree with 16 items that weighed debt-to-income ratio, credit score, expenses, and other financial variables and then defined rates, terms, and maximum amounts based on the applicant's risk profile. Autoreview was programmed into the CDFI's proprietary loan management system, Client Track, to expedite application evaluation.

Although the concept of a risk-based approach for underwriting was not new to the industry, ACCION Texas had taken it to the next level by integrating the approach into its loan management system and creating the first automatic review of loan applications. At this point, however, the information was still entered into the database by the loan officer.

Organizational Restructuring

By June 2004, although ACCION Texas's portfolio was shrinking and delinquencies and charge-offs were at all-time highs, the organization's financial situation was strong, with more than \$2 million in cash. In July of that year, Gary Lindner was hired as the organization's first chief operating officer. Dramatic changes in management and business practices followed—loan officers were given incentivized production goals, cumbersome loan processes were eliminated, new products were added, and the staff was restructured. Gustavo Lasala had also returned to ACCION Texas in April 2004 as a full-time employee and would soon become the chief financial officer.

Deployment of the Scoring Engine in Autoreview

Refinement of the scoring engine continued upon Gustavo's return to ACCION Texas in April 2004. The scoring engine was then integrated into Autoreview; the revised version of which was launched in August. Essentially, the scoring engine added demographic variables to Autoreview's original credit- and finance-driven variables, providing a more rounded risk rating of potential borrowers.⁶ (Although the original scoring engine also included credit- and finance-driven variables, these variables did not significantly alter what was originally programmed into Autoreview.)

Shortly after the launch of the revised Autoreview, deployment of the program more than tripled from earlier in the year, reaching the \$1 million mark in monthly disbursements by October. Portfolio quality, however, continued to deteriorate, in part due to high-risk loans from prior years defaulting.

In 2005, production continued at a record pace. New information was regularly generated and incorporated into the system as the loans approved by the scoring engine aged. Underwriting continued developing its guidelines, with Nelly Rojas-Moreno, the ACCION Texas director of underwriting, acting as a central person in these developments. A third version of the scoring engine, which included a detailed risk-based tier system combined with a new scoring engine, was developed.

In July 2006, a report from the Intelligence Unit of The Economist⁷ presented ACCION Texas as a case study of the successful application of a business intelligence solution for managing business risk. By then, ACCION Texas had more than two years of experience in using scoring tools in microfinance and had established itself as a cutting-edge organization in using technology to increase workforce productivity.

Integration of Software Systems and Introduction of Online Applications

Production growth brought a new set of challenges. The existing systems provided little scalability. Crashes of Client Track—the broader loan management system housing Autoreview—were frequent. To compound the problem, ACCION Texas was still using several different systems: Autoreview (within Client Track) for loan origination and

6 The scoring engine is described in more detail on page (insert page # in final pdf).

7 Intelligence Unit, "Business Intelligence: Putting Information to Work," The Economist, July 2006, p. 7.



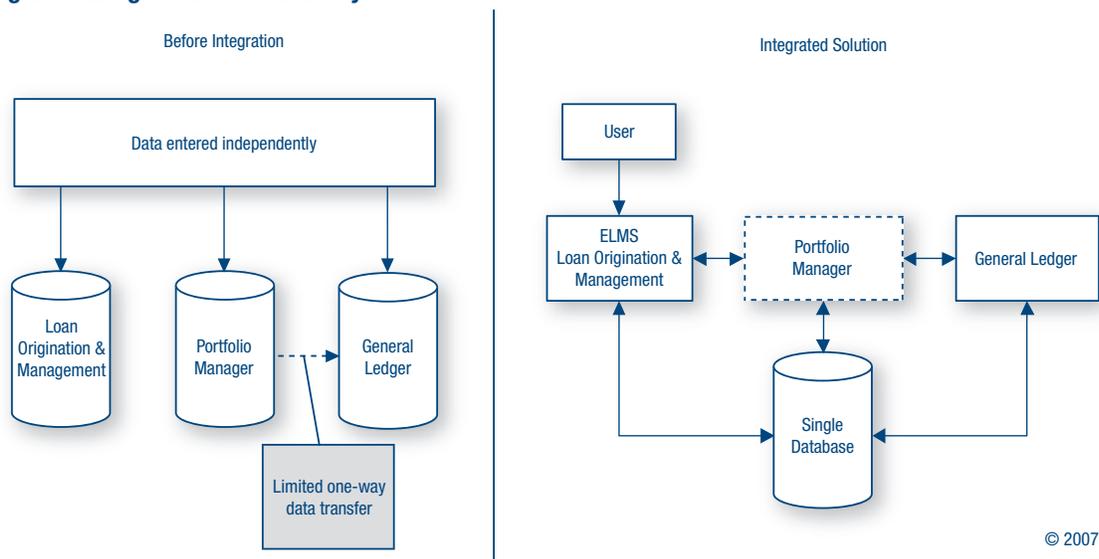
underwriting, The Exceptional Assistant (TEA) for portfolio management, and Fundware for the general ledger. None of the systems was compatible with the others, which often resulted in duplicate data entry in the different systems. If production were to continue growing, the staff in the back office would soon be overloaded. ACCION Texas again turned to technology.

In early 2006, ACCION Texas issued a request for proposals (RFP) for an integrated electronic loan management system (ELMS). The new system would eliminate the need for data entry in three different software programs. This would enable ACCION Texas to electronically handle all phases of loan management—from application to loan payoff—with the creation of paperless files.

In April 2006, not long after the RFP was issued, ACCION Texas launched its automated Web application. Although application preliminary approval was done through Autoreview, it required the loan officer to constantly check the online database for new applications and to manually enter each application in Client Track. This was another component that would need to be integrated into the system as a functional whole.

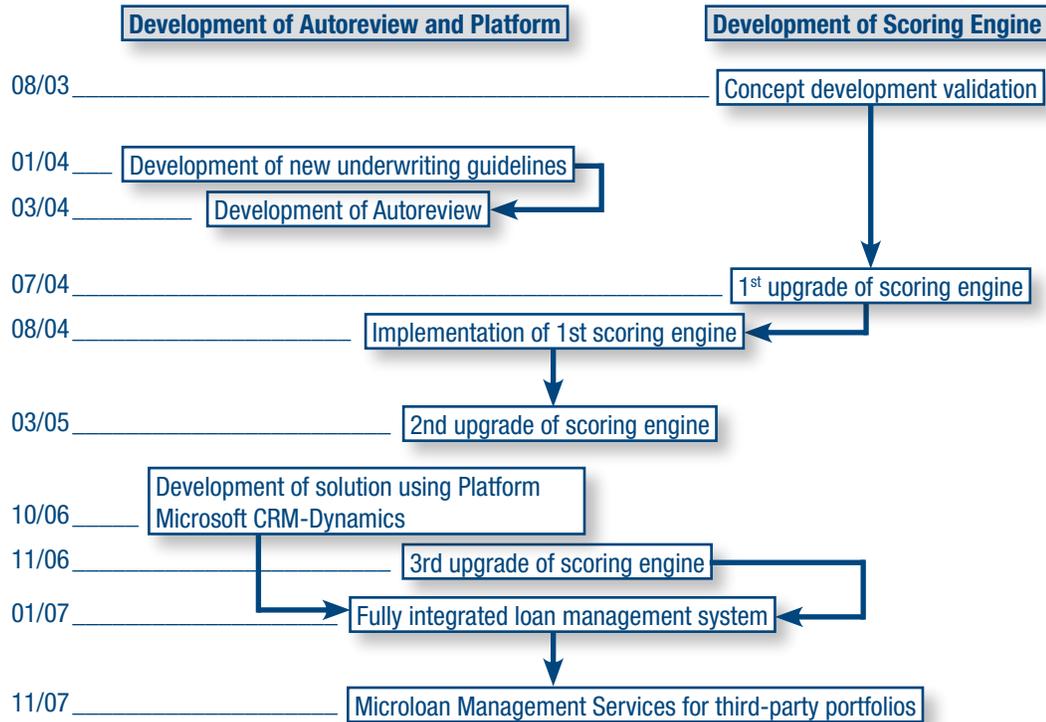
ACCION Texas received four responses to its RFP—three based on custom solutions and one based on off-the-shelf products. The winning proposal combined a Microsoft Customer Relationship Management (CRM) with Microsoft Great Plains, both off-the-shelf products. The use of the two software programs moved ACCION Texas from using three separate programs with three separate databases to using two programs with a single database. Microsoft CRM internalized Autoreview and handled all loan origination, while Microsoft Great Plains handled all accounting. A combination of the two programs handled portfolio management (see Figure 1). An advantage of using Microsoft products was the smooth integration between them as well as the single, integrated database on the back end. Once the integration and the platform were in place, much work and development had to be invested in the loan process workflow, including three critical components (see Fig. 5). It should be noted here that the integration of the general ledger into loan origination and portfolio management is not available for clients of the MMS.

Figure 1: Integration of Software Systems



The first deployment of the new system occurred in November 2006. Loan officers received training in the system, and by January 2007, all loan applications were being processed through it, starting with the online loan application that automatically populates the data fields, followed by scoring and underwriting, and ending with closing documents preparation.⁸ The timeline shown in Figure 2 details the development of the MMS.

Figure 2: Development of ACCION Texas Microloan Management Services



The Results: Increased Production and Improved Performance

Between 2004 and the end of 2006, ACCION Texas's portfolio grew by 50%. Delinquency fell from 20% in 2004 to 10% in 2006 and then to 5% in 2007; charge-offs fell from 10% in 2004 to 6% in 2007; restructures fell from 4.5% in 2004 to 2.5% in 2006 and then to 1% in 2007. These were all historic records. Self-sufficiency consistently improved, rising from 49% in 2004 to 60% in the last quarter of 2007. By the end of 2007, ACCION Texas's production costs had fallen by more than 30%. And all this was achieved with fewer back-office employees. Figures 3 and 4 track improvements in production and portfolio performance.

⁸ ACCION Texas's Web application and accompanying timeline can be found at the following link: http://www.acciontexas.org/online_application.php



Figure 3: Growth in Portfolio Outstanding

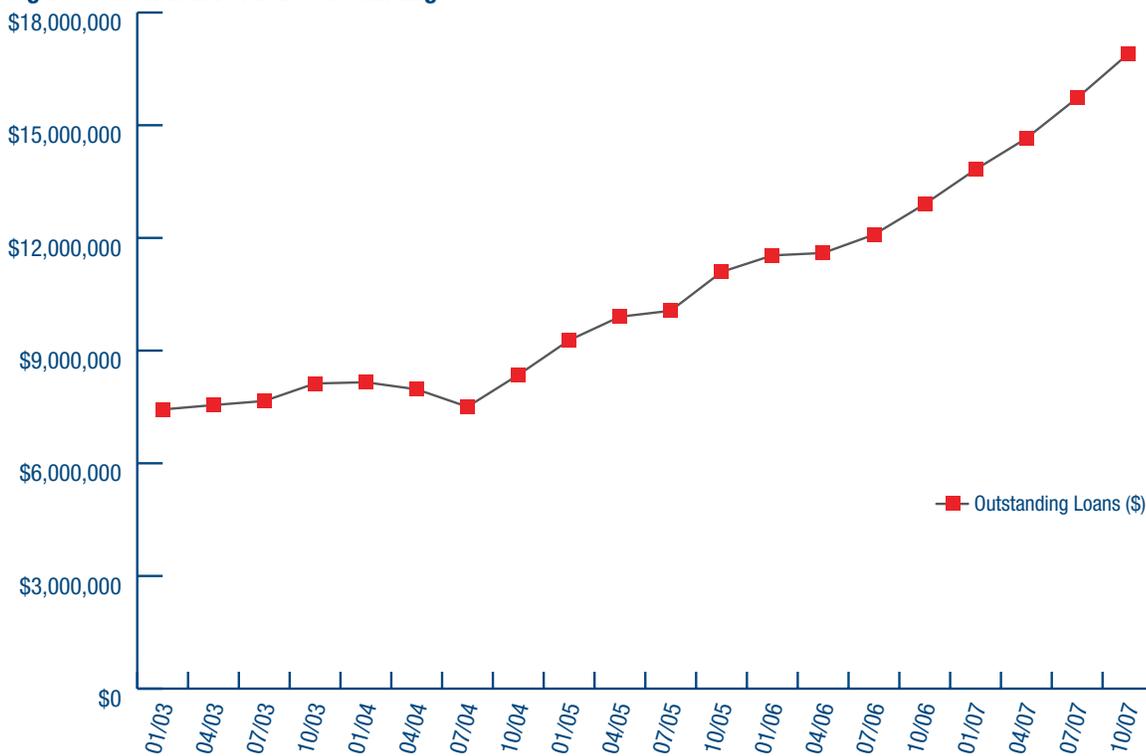
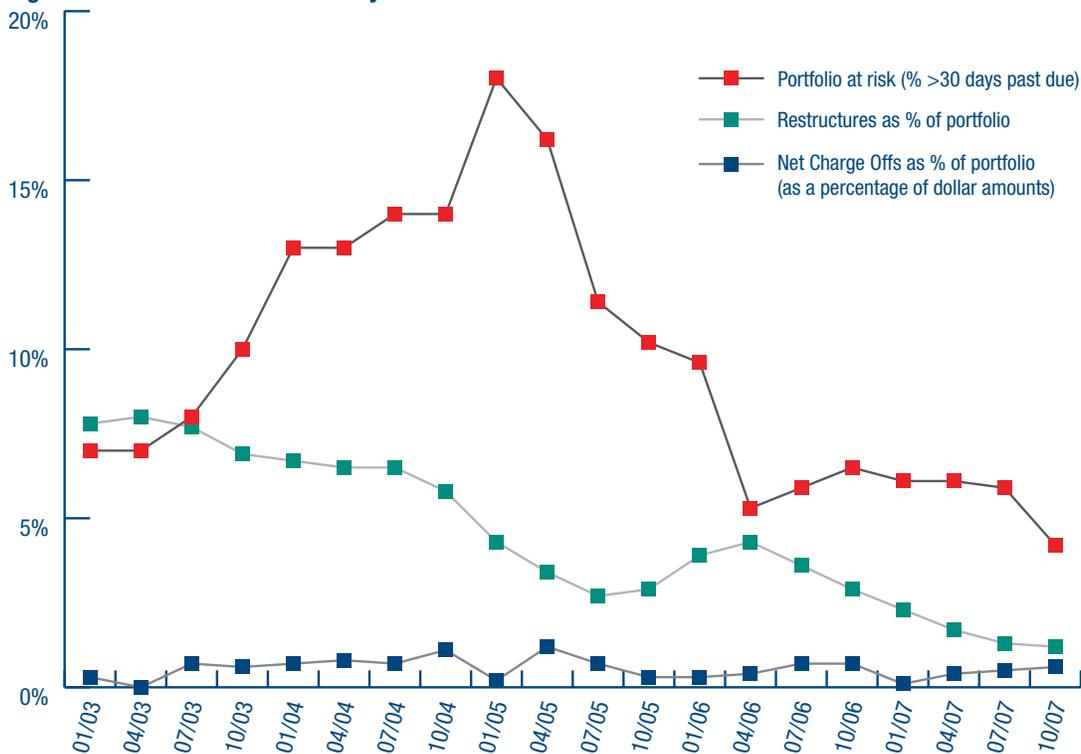


Figure 4: Historical Portfolio Quality



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The MMS as a Servicing Center

With the goal of achieving 100% self-sufficiency, ACCION Texas was actively looking for ways to increase scale through nonorganic growth and to increase revenue without increasing the risk of operations. Servicing other organizations' portfolios would leverage ACCION Texas's strengths and provide a revenue alternative to loan product income. Taking advantage of this leading position and scaling up to become a service center was the next logical step.

ACCION Texas began seeking clients for its MMS. As of February 2008, three organizations were already using the MMS, a new organization had committed to use it, and five others were evaluating it for implementation.⁹ By 2012, ACCION Texas plans to service 20 organizations, with an aggregated volume of five times that currently managed by the organization.

Overall, it is estimated that the cost of the MMS to ACCION Texas, for annual production up to \$2.5 million, is less than the cost of one full-time employee. ACCION Texas estimates the cost of having a portfolio serviced by the MMS to be less than the cost of one full-time employee for every 250 loans under management. This includes all aspects of portfolio management, including collections. The service is priced according to loan volume.

9 See Appendix A for a description of ACCION Texas's work with its first MMS client



Essential Components of the MMS

The Web Application

The MMS Web application requires more information than most microenterprise applications; however, it speeds up the application process for the lender because the application can only be submitted once all fields have been completed. This puts the onus of completion on the applicant and means that submission of partially completed applications is no longer an issue for the lender. When filling out the application, the applicant can begin, save, and return to an incomplete application at any time.

Currently, ACCION Texas's own program receives about five Web applications a week. However, many more applications come through "office walk-ins." It is important to note that the underwriting team reviews all Web applications before the applicant receives a decision. Once an application has been submitted, it takes an average of two days for the applicant to receive a response. MMS clients may also review applications to their program as they are submitted and may override the scoring engine's automated decision making.

The Scoring Engine

The MMS scoring engine incorporates two categories of variables—credit-related variables and what ACCION Texas calls demographic variables. The demographic variables were revealed through statistical analysis of the cumulative borrower and portfolio data, originally based on 1,000 borrowers and which has continued to evolve as the data pool has grown. Three of the many demographic variables that the scoring engine employs are:

- Length of time at current address,
- Homeownership, and
- Location of the business.

The credit-related variables include:

- Debt-to-income ratio,
- Credit history performance,
- Other expenses, and
- The applicant's credit score.

If applicants receive a yes from both the credit-related and the demographic aspects of the scoring engine, they are ascribed a green rating. The system then provides a maximum loan amount and an interest rate. To receive a final approval and close the loan, the applicant is required to submit supporting documents.

A yellow rating means a yes in one category and a no in the other, whereas a red rating is a no in both categories. If applicants receive a yellow rating, they are submitted for review to an underwriter. Roughly 50% of applicants receive a yellow rating.

The scoring engine enables ACCION Texas to reach borrowers who have poorer credit ratings while also maintaining portfolio quality. In December 2007, ACCION Texas's borrower credit scores were as low as 450 and averaged 570. ACCION Texas reports loan repayments and defaults to the TransUnion Credit Bureau. This allows borrowers to increase their credit rating while providing an added impetus to avoid default.

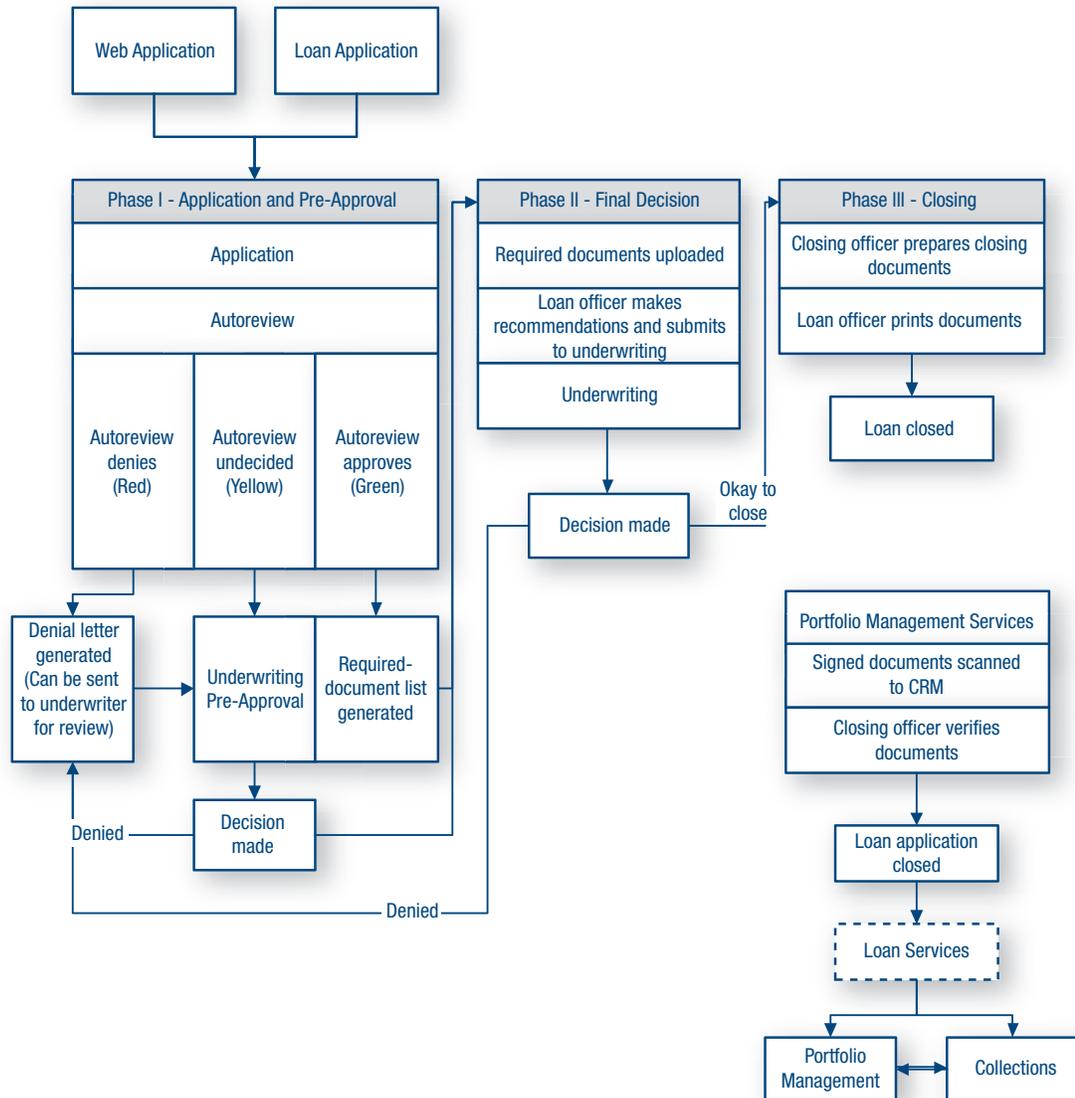
The MMS provides a recommendation based on the applicant’s credit risk profile but the final decision of whether to fund the loan is made by an underwriter. The service is intended to help organizations focus on developing customer relationships and on spending quality time with customers while improving the use and allocation of resources. This is what ACCION Texas refers to as “High Tech—High Touch”.

Development of an Integrated System

Integration of loan management, general ledger, impact tracking, and other systems is something that most CDFIs struggle with. Although ACCION Texas implemented integration of the general ledger for its own operations and is not able to offer this service to clients of the MMS, the process is worth considering for any CDFI struggling with the inefficiency of systems that do not communicate.

Figure 1 describes the integration of the Web application, loan management, and general ledger. Figure 5 below describes the automated application and loan origination processes.

Figure 5: Loan Origination and Processing



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Pros and Cons of the MMS

Benefits of the MMS to Users

ACCION Texas Microloan Management Services is a powerful tool to help organizations grow and achieve economies of scale.

The potential benefits to microenterprise and consumer lenders implementing the MMS are:

- Greater self-sufficiency from reduced expenses, increased production, and increased portfolio quality through
 - The ability to focus organizational resources on microloan program–related activities;
 - Optimization of risk-management practices;
 - A streamlined process, including application, underwriting, and document preparation; and
 - Faster loan turnaround.
- An automatic risk rating that does not rely exclusively on credit scores to assess a customer's creditworthiness and that can be overridden by the MMS client.
- The ability of MMS users to report to credit bureaus.
- The annual upgrade of the scoring tool, which is provided at no additional cost.

Benefits of the MMS to ACCION Texas

In addition to the benefits to users, the MMS provides ACCION Texas with additional benefits as the owner of the technology and the potential revenue stream from a new business line (i.e., service provider).

Challenges of the MMS for Users

There are several challenges for CDFIs using the MMS as a service center:

- Compatibility of systems and processes between ACCION Texas and an organization subscribing to its services.
- Local market relevance of the scoring tool: The MMS scoring engine is based on ACCION Texas's borrower profiles and payment history. Potential clients will have to consider the similarities and differences between their clients and ACCION Texas's clients to determine whether the scoring engine will produce reliable results. ACCION Texas offers the service of analyzing and programming a client-centered scoring engine based on the client's own borrower histories, but to date no interested parties have had an adequate sample of cleaned borrower histories required for the service. Gary Lindner suggests to potential MMS users that they run past loans through the MMS and compare them against the success of the loan and their own approval process. ACCION Texas will monitor the MMS's success at risk rating their clients' borrowers as loans mature.
- The MMS may be either more or less risk averse than its users. Loan officers can, however, override the system.

Challenges of the MMS for ACCION Texas

- The required mix of skills in the organization: being a technology service provider demands a zero error tolerance and high levels of expertise in technology, programming, and portfolio management.
- The need for constant upgrades and improvements: business intelligence models must be maintained continuously and upgraded over time, which requires the availability of material and intellectual resources.

Can the MMS Be Replicated?

The two components of the MMS that will most interest CDFIs—the credit scoring engine and systems integration—both present benefits and challenges for any group hoping to replicate either component.

Replication of the scoring engine is relevant for microenterprise lenders and consumer lenders. A scoring engine based on the CDFI's own borrower history is of great value to CDFIs looking to increase underwriting efficiency; however, there are challenges for CDFIs creating their own scoring engine, including:

- Staffing and skill sets: attracting and retaining the people to develop the scoring tool is one of the biggest challenges because it requires a strong set of skills and several years of experience at a senior level in different disciplines (e.g., statistics, risk management, and financial analysis).
- A large borrower sample with complete information is required for results that are good predictors of loan repayment. Moreover, the outcome of the statistical analysis may not result in a tool that is an accurate predictor of loan repayment; in other words, the analysis may prove inconclusive.
- As loans and portfolios mature, the scoring tool needs to be updated.
- CDFIs that have built a program on training and technical assistance need to also consider whether they are comfortable with automated loan approval.

Systems integration was the most resource-intensive component of the MMS for ACCION Texas. Challenges to systems integration include:

- Finding the right vendor with the best skills set and the experience to build and deliver a system according to the organization's needs.
- Finding the right balance between the organization and its vendors, the asymmetry of information, and the lack of internal expertise in programming made ACCION Texas overly dependent on its vendors.
- Having a proven, systematic approach to loan management; without such an approach, the system would lack the ability to perform consistently.

A challenge for both the scoring tool and the integrated systems was a lack of resources to attract and retain talent and the flexibility to change the direction of the project as needed. Too often the development of a new piece of the system led to abandoning another one, resulting in delays. The resources that ACCION Texas put into developing the MMS are extensive. Consulting fees and staff salary expenses were partially covered by an \$82,000 CDFI Fund TA Grant late in 2006, but ACCION Texas's development costs ran almost twice this amount with no guarantee that the organization would receive the grant.

ACCION Texas's COO, Gary Lindner, cautions, "Community development financial institutions have largely applied an isolated approach to the development and use of technology and the result has been duplication of efforts in selecting and developing solutions, duplication of investments, lack of standards, and organizations being locked in by software vendors. Some of the efforts duplicated included implementation of online applications. ACCION USA has developed its own scoring tool and Web application system parallel to ACCION Texas's efforts and there have been other portfolio management and underwriting procedures to include credit scoring engines. Had there been an integrated CDFI effort, advantages could have been shared by all at a fraction of the cost."



Dos and Don'ts for MMS Replication

Following are Gary Lindner's recommended dos and don'ts for CDFIs considering development of their own scoring tool or considering integrating their software systems.

Do:

- Hire the right people with the right skills and qualifications.
- Invest in technology.
- Aim to standardize your business practice.
- Strive for growth.
- Focus on areas for which you know you have a competitive edge.

Don't

- Develop a scoring tool if you are not willing to update it with portfolio and borrower data.
- Purchase software developed for a different organization without knowing the actual results and customer satisfaction of such an initiative.
- Start a system conversion without the adequate mix of skills in your team.
- Develop a solution for your organization without exploring potential for a partnership with ACCION Texas.
- Avoid areas of organizational weakness. Work on them!

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Appendix: The MMS's First Client: Appalachian Community Enterprises

Appalachian Community Enterprises (ACE) is a Georgia-based microenterprise lender serving Appalachian counties in the state. As of November 2007, ACE is the furthest along of any CDFI adopting the MMS, though still in pre-implementation. Grace Fricks, the CEO, sees the MMS as a means to achieving economies of scale.

ACE serves a market similar to that of ACCION Texas—largely Hispanic, rural, with some urban. To tailor the scoring engine to ACE's specific market, ACCION Texas has incorporated some of ACE's criteria into the underwriting process.

ACE has adopted a modified version of ACCION Texas's online application. All applications will go to both ACCION Texas and ACE. Each application receives an automated rating:

- **Green**—The loan is preapproved, and ACE collects any outstanding supporting documents. The loan is then passed to ACCION Texas's underwriting for a final recommendation.
- **Yellow**—ACCION Texas's underwriting reviews the file to search for evidence that supports moving forward. If found, the ACE loan officer collects outstanding documents, and the loan is passed to ACCION Texas's underwriting for a final recommendation.
- **Red**—The loan is refused. The ACE loan officer reviews the application before sending a denial letter. If high risk is confirmed, a denial letter is issued without further delay.

ACE will have a point person at ACCION Texas who will be responsible for underwriting ACE applications.

ACE currently closes fewer than 100 loans a year, with an increasing number of gap financing loans for local businesses. ACE projects 32 more loans in 2008, 105 more in 2009, and 300 more in 2011. ACE also envisions that the application will be able to accommodate gap financing.



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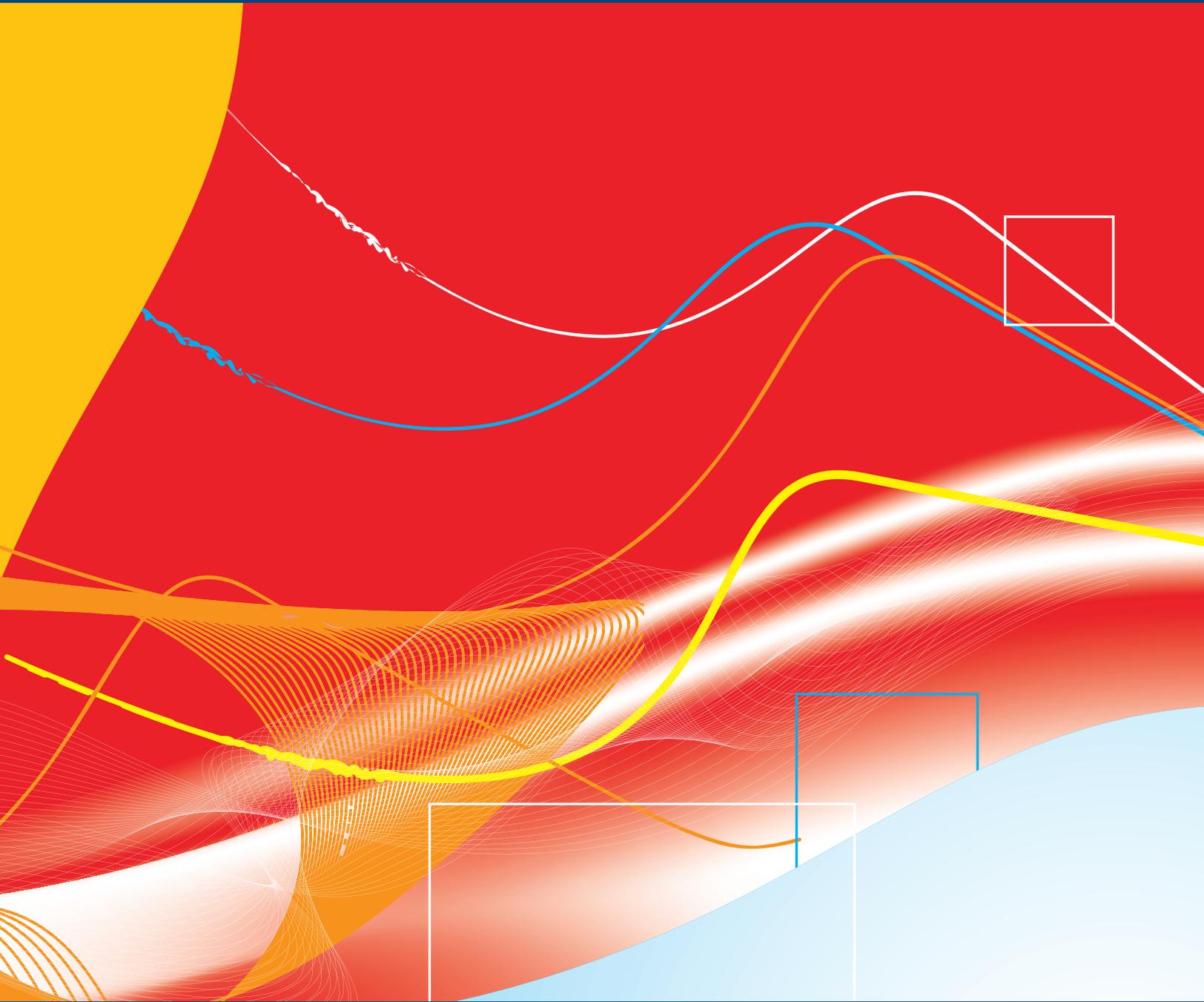


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