MICROFINANCE CORE MIS SYSTEMS—THE BUSINESS CASE FOR OUTSOURCING

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Alice Liu

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EXECUTIVE SUMMARY

Core banking management information systems (MIS), information technology (IT) capacity, and infrastructure (reliable electrical power and network connectivity) are critical prerequisites and the foundation for the implementation of new delivery channels and other banking applications, but they continue to be difficult hurdles for microfinance institutions (MFIs), especially the smaller institutions, to overcome. Without this solid foundation, the ability of MFIs to implement sustainable information and communication technology (ICT) solutions and reach scale will be severely constrained.

To address this challenge, a few MFI technology providers have recently developed outsourced core banking solutions. Using an application service provider (ASP) or software-as-a-service (SaaS) model, these solutions host the core banking MIS and provide the data center environment to enable stable and reliable access to the core banking system, as well as the IT staff to manage, monitor, and enhance the systems.

However, MFIs are reticent about adopting outsourcing. They state a variety of reasons outsourcing will not work for them: they are different, outsourcing implies a loss of control over sensitive and strategic client data, the security risk is too great, they do not want others to have access to their data or clients, and there is no cost savings.

The objective of the research documented in this paper is to identify whether outsourced MIS solutions can sufficiently resolve the MIS, IT capacity, and infrastructure challenges of MFIs and enable MFIs to perform more effectively and focus on their business goals. Key research questions included: What would the MFIs gain from outsourcing and what would the trade-offs be? Would they still be able to provide additional services (such as additional delivery channels) by using an outsourced core MIS?

Given the long history of outsourcing in the U.S. financial sector, and its prevalence at U.S. small banks, the approach to this research was to study the decision by U.S. small banks whether or not to outsource their core banking MIS and apply these lessons to MFIs in developing countries. The team interviewed small banks, vendors, and consultants to hear their perspectives on their core banking experiences and concerns.

These experiences and lessons learned are summarized in two parts: in this document, a "Business Case for Outsourcing," as well as a companion "Decision Guide" that provides guidance to MFIs on factors to consider when deciding to outsource or host a solution (either custom developed or bought) in-house. This Business Case also explores enabling environment issues that may impede the growth of outsourcing in developing countries. Three cases that studied small U.S. financial institutions are included in the appendix of this Business Case - one that outsourced from the first day in business, one that has a hybrid of in-house and outsourced systems, and one that chose to buy a package and host in-house. Two cases featuring vendors of core banking solutions are provided in the Decision Guide's appendix. At the end of both documents is a bibliography of additional resources. The reader should review the Decision Guide after reviewing this Business Case document.

SUMMARY OF CASE STUDY FINDINGS

The case for outsourcing is quite strong. The trend is moving towards outsourcing. Seventy percent of new core sales to financial institutions in 2007 were for outsourced systems, while 30 percent were for in-house systems[1]. Outsourcing has existed in the U.S. banking industry for 45 years, referred to, then, as a "service bureau" or "third party processing,"[2] and large commercial banks in developing countries outsource as well.

Some believe that outsourcing is more expensive than maintaining an in-house system. In some cases, as mentioned with the "Credit Union Product B" from Vendor X in Vendor Case Study 1[3], that might be true. However, most people do not have a full understanding of the total cost of ownership (TCO) for maintaining an in-house system because they are unaware of what is involved in implementing an in-house system. A Yankee Group study of TCO for two customer relationship management (CRM) solutions, one an in-house solution and the other an outsourced solution, compared baseline and advanced or "fully loaded" implementations for 200 users and found that in both types of implementations, the TCO over five years was lower for an outsourced solution[4]. A later Yankee Group study that focused on small and medium businesses compared two solutions that combine CRM and enterprise resource planning systems, using a hypothetical 20-user and 100-user implementation as the basis for comparison, and found that the TCO was also lower for the outsourced solution[5]. Although this was a comparison of CRM applications, most of the costs considered in this study are applicable to IT implementations in general. The main cost differences between maintaining a system in-house and outsourced systems are in the savings in IT hardware and infrastructure, systems maintenance and support, and staff time and labor.

The enabling environment issues in developing countries may be inhibiting some growth of the outsourcing model but not prohibiting it entirely. The primary issues will vary from country to country but the following most likely exist in many developing countries:

1. Rule of Law, Enforceability of Contracts and Service Level Agreements (SLAs), Effective Court Systems

2. Regulatory Oversight and Compliance

3. Infrastructure

4. Number and Capacity of Vendors

5. Customer Service Orientation

6. MFI experience with vendor procurement

Outsourcing is occurring in developing countries despite these issues. A few vendors have emerged to serve this market and are pioneering the way, so where rule of law may be less strong, vendors still need

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[1] Art Gillis, "Outsourcing is Now More Popular With Banks than In-House, and Bill Gates Knows Why," *Bank Systems and Technology: The Blog*, May 12, 2008, http://banktech.com/blog/archives/2008/05/outsourcing_is.html. (Does not cite data sources).

[2] Ibid.

[3] This case can be found in the Appendix of the companion report "Outsourced Microfinance MIS Systems – A Decision Guide for Microfinance Institutions".

[4] http://www.bakerhill.com/clientlibrary/viewArticle.asp?docID=7788.

[5] http://www.netsuite.com/tco. See http://www.netsuite.com/portal/press/releases/nlpr06-16-05a.shtml for a discussion of this study.

early successes and customer references upon which to build their business. This gives them more incentive to meet their contractual agreements. Further study of the regulatory environment is needed to determine whether more or less regulation is needed and whether regulations are a barrier to growth and adoption of outsourced services, or a booster or confidence-builder, as it appears to be in the U.S.. Technology is improving at an exponential rate, prices continue to fall, and demand for the Internet and mobile communications is ever-increasing, leading to innovative solutions for rural connectivity and more connectivity and greater bandwidth. Outsourcing actually reduces the infrastructure burden on MFIs and transfers that burden to the outsourced solution provider who often has the economies of scale to address these infrastructure challenges. With the entrance of IBM and their processing hubs[6], competition is beginning to emerge, which may lead to improved service and better pricing for MFIs.

Very small (fewer than 1000-2000 loans) and slow-growing institutions may find that hosting in-house is more economically feasible than outsourcing. These MFIs have simpler requirements, so a simple software package running on a few personal computers (PCs) may suffice and require only one or two IT staff to manage. Vendors may also find that they cannot make a business case for outsourcing to very small MFIs.

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[6] IBM, "IBM Processing Hub for Microfinance – A Discussion Document," IBM, December 2007, http://technology.cgap.org/technologyblog/wp-content/uploads/2008/02/processing-hub-public-121920071.pdf

BACKGROUND

INTRODUCTION

For several years, the development sector has been studying the use of technologies within MFIs, beginning with core banking management information systems (MIS), to the first generation delivery technologies such as personal digital assistants (PDAs). More recently, the development sector has begun exploring new technologies such as mobile phones and biometric cards as new delivery channels of financial services. While the technologies may be different, the key issues remain the same. Core banking MIS, IT capacity, and infrastructure (reliable electrical power and network connectivity) are critical prerequisites to the implementation of new delivery channels and other banking applications, but they continue to be difficult hurdles for MFIs, especially the smaller institutions, to overcome.

MFIs are facing increasing competitive pressures from other MFIs and larger entrants such as traditional commercial banks, and seek to use technology innovations to improve their competitive advantage. However, it makes no sense to implement pilot projects that will not move beyond the pilot stage because the IT foundation is weak. Without a solid foundation of a core banking MIS, IT resources, and infrastructure, the ability of MFIs to implement sustainable ICT solutions and reach scale will be severely constrained.

To address this challenge, a few MFI technology providers have recently developed outsourced core banking MIS solutions. Outsourcing may be a potentially viable solution for improving the efficiency and capacity of smaller MFIs. However, MFIs are reticent about adopting outsourcing. They state a variety of reasons outsourcing will not work for them: they are different, outsourcing implies a loss of control over sensitive and strategic client data, the security risk is too great, they do not want others to have access to their data or clients, and there is no cost savings.

Yet there exists in the developed world a strong precedent that outsourcing is a successful operational strategy for financial institutions. Outsourcing has existed in the U.S. banking industry for 45 years, referred to, then, as a "service bureau" or "third party processing"[7]. Even though currently there is still a slight preference for in-house systems over outsourced systems (53 percent versus 47 percent of the installed base of 16,881 financial institutions (FIs)), the trend is towards outsourcing. Seventy percent of new core sales to financial institutions in 2007 were for outsourced systems, 30 percent were for in-house systems[8]. In 2005, it was the reverse: 77 percent for in-house and 23 percent for outsourced[9]. According to the Consultative Group for Assistance to the Poor (CGAP), small banks in the U.S. and Europe have outsourced their core MIS systems for years, in recognition of the fierce competition they face for IT resources and their inability to take advantage of economies of scale as compared to large banks. The Aite Group published a study reporting that in 2006, 54 percent of small banks (defined as banks with less than

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[7] Gillis http://banktech.com/blog/archives/2008/05/outsourcing_is.html.

[8] Ibid.

[9] Ibid.

$1 billion in assets) used hosted or ASP deployments[10]. The same study reported that 92 percent of the core banking system replacements in 2006 was performed by small banks of under $10 billion in assets.

RESEARCH OBJECTIVES AND LIMITATIONS

The research objective is to identify whether outsourced MIS solutions can sufficiently resolve the MIS, IT capacity, and infrastructure challenges of MFIs and enable MFIs to perform more effectively and focus on their business goals. Key research questions included: What would MFIs gain from outsourcing and what would the trade-offs be? Would they still be able to provide additional services (such as additional delivery channels) by using an outsourced core MIS?

The focus of this study is the decision by U.S. small banks whether or not to outsource their core banking MIS. While there are certainly differences between U.S. small banks and MFIs in developing countries, the assumption is that U.S. small banks share similar concerns about outsourcing, similar competitive challenges, and similar resource constraints as MFIs and that they have found outsourcing to be a viable, cost effective option that allows them to compete. In addition to examining the experiences of small banks, the research team included the views of vendors and of a consultant to financial institutions.

The limitation of the research is that there is no "one size fits all" for an ICT solution, and the study is primarily examining cases in the developed world, so the experiences of small mainstream banks may not apply fully to MFIs. The research also recognizes that experiences in developed economies may not be entirely replicable since MFIs work in a wide range of country contexts with varying regulatory framework, IT infrastructure, and institutional capacity. While this research can indicate whether the business drivers for outsourcing exist as well in developing countries, and whether outsourced MIS solutions have potential to solve the IT capacity and infrastructure challenges of MFIs, it cannot provide absolute assurance to an MFI that sustainability will be achieved in its particular situation.

RESEARCH APPROACH

The Washington, D.C.-based team interviewed small banks, vendors, and consultants in the region to hear their perspectives on their core banking experiences and concerns. During this research period, IBM and CARE announced their plans to build a shared services and infrastructure platform for MFIs in Africa, called the "Africa Financial Grid", and so the team interviewed IBM as well. The team interviewed representatives from the following organizations:

- Chain Bridge Bank

- Eagle Bank

- Latino Economic Development Corporation (LEDC)

- Catalyst Consulting Group

- A top 10 vendor of core bank processing solutions (referred to as Vendor X)

- IBM

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[10] Christine Barry, "Evaluating the Vendors of Small Banks' Core Banking Systems: Effective Cross-Selling is the Key to Success," Boston: The Aite Group, January 2007, http://www.aitegroup.com/reports/200701291.php

The interviews with the small banks centered primarily on their core banking experience: their reasons for choosing to implement an outsourced or an in-house solution, their selection and implementation process, their costs, qualitative and quantitative benefits, and their lessons learned. The interviews with the vendors and consultant sought to understand their business models, their business drivers, their understanding of the small bank's perspective and needs regarding core banking systems and outsourcing, and their lessons learned.

OUTSOURCING TERMINOLOGY

This study and resources referenced use a variety of terms for outsourcing, which should be clarified before proceeding further. These terms have evolved over the years to mean essentially the same thing: application software and hardware hosted and managed off-site by another party. For the application software, the vendor develops and supports the software, providing new releases, patches, bug fixes, upgrades, and enhancements. For the hardware environment, the vendor hosts the application software on their own servers in their data center, providing the environment (power, network connectivity, cooling, security, fire suppression) and staff to deliver 24 hour, 7-day support and maintenance, system monitoring, backup and recovery, disaster management and recovery, and more.

For the purposes of this paper, these terms are synonymous with "outsourcing", depending on the terminology used by the person interviewed:

- Third party processor

- Their party service provider

- Core processing vendor

- Application Service Provider (ASP)

- Service Provider or Solution Provider

- Service Vendor

- Service Bureau

More recent terms such as "on-demand applications" and "Software-as-a-Service" (SaaS) are in vogue now and refer also to an application hosted and maintained by a third party.

"In-house" and "on-premises" are synonymous and for this paper, refer to hosting a system on the bank's premises, at their location, managed and maintained by their own staff.

"Core banking system," "core banking MIS," and "core processing" are also used interchangeably. These systems usually include modules for accounting, deposits, loans, payments, basic client data management, and branch (teller) automation.

DESCRIPTION OF CORE BANKING SYSTEMS FOR MICROFINANCE

In the United States, core-banking systems have evolved into a complex suite of integrated products to serve consumer, small business, and corporate clients. The products include online banking, cash management/business banking, remote deposit capture, and fraud detection. The needs of microfinance institutions are more fundamental, however. At the most basic level, loan portfolio management,

accounting, and basic reporting are the primary functions small MFIs require to track clients and manage loans and payments against the loans. "Small" is a relative term, referring to the number of clients (say less than 2,000), the volume of transactions, as well as growth plans. The reporting needs of small MFIs likely still involve some ability to report basic lending trends and forecast when funds may run low.

"Medium-sized" MFIs, perhaps those with 2,000 to 10,000 clients, most likely need core banking software that also manages deposits and savings, provides more client tracking features, enhanced reporting features such as both ad-hoc and canned reports, the ability to develop custom reports, and branch (teller) automation functions.

Large MFIs, with over 10,000 clients, need more sophisticated client relationship management (CRM)[11] functionality, which would include the ability to identify opportunities to cross-sell other financial products and services to their clients. The core banking system of large MFIs likely needs to support insurance products and integration with an automated teller machine (ATM) network or point-of-sale (POS) network. Lastly, the large MFI may wish to integrate its core banking system with its human resources and payroll systems to better link the tracking of employee performance with the reward system.

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[11] Customer relationship management refers to the systems and processes to track all interactions with a customer. Originally the term CRM was more closely associated with systems to track leads and prospects, also known as Sales Force Automation, and grew to encompass the entire life cycle of a customer, from prospect to sale to customer service and training. For more information, see http://en.wikipedia.org/wiki/Customer_relationship_management.

CASE STUDY FINDINGS

Below are the findings from all of the case studies and additional research. The case for outsourcing is quite strong, yet not for everyone, and noted in the next section are enabling environment issues that developing countries face which may inhibit the growth of outsourcing.

THE BUSINESS CASE FOR OUTSOURCING IS STRONG

1. **U.S. small banks, especially start-up or "de novo" banks, choose to outsource in order to reduce IT staff and IT infrastructure costs, and partly because they lack sufficient IT staff and resources.** This is the most common reason given for outsourcing. The real savings is on staff, typically the IT staff. The TCO studies cited in the executive summary and the general trend towards outsourcing bear this out. These TCO studies used hypothetical and estimated costs to analyze the cost and one article even makes their spreadsheet available as a template for the reader to build their own TCO estimate[12]. In the TCO discussion of the companion Decision Guide document, one can clearly see the burden of responsibility for implementing and supporting an in-house system; non-IT people are usually unaware of the complexity of the responsibility and even IT managers may downplay the cost. As another data point, according to the consultant interviewed for this study[13], a $5 billion bank that uses an outsourced core banking system may need only three or four IT staff, because the more complex networking support responsibilities are outsourced. This consultant is familiar with one $16 billion bank using an in-house system, with three to four people supporting the IBM AS400 mainframe and *thirty* people supporting the network infrastructure, so the network support and maintenance can be very labor-intensive.

   With outsourcing, an MFI will still need some IT staff to provide corporate IT services such as email and PC support, and senior IT managers to manage the outsourcing vendor and liaise between the vendor and the bank. The MFI cannot outsource its institutional knowledge if it intends to compete for the long-term.

2. **U.S. small banks also report that technology helps level the playing field against larger banks.[14]** According to the Aite Group report, core-banking systems allow small banks to offer new products more quickly and scale for their planned growth. One of the cases studied, Chain Bridge Bank, felt that outsourcing allows them to offer a wide variety of services. If a customer wants to use a currently unavailable service, all Chain Bridge needs to do is contact a vendor and Chain Bridge can then offer the service to the customer for a fee.

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[12] Andrew Conry-Murray, "TCO Analysis: Software as a Service – Same Dog, Different Fleas," Network Computing, March 5, 2007, http://www.networkcomputing.com/showArticle.jhtml?articleID=197700166.

[13] The consultant's advice and recommendations are documented in detail in the companion report "Outsourced Microfinance MIS Systems – A Decision Guide for Microfinance Institutions".

[14] Barry, p. 8.

3. **Data security concerns are misplaced and should not serve as a barrier to outsourcing.** Data security breaches have occurred at institutions of all sizes and types. Risks stem from security problems and not from outsourcing as a model per se, not for example from financial data from multiple institutions residing in the same facility or on the same server. Statistics indicate that the greatest percentage of data breaches (36-43 percent) is due to stolen computer-related equipment[15], often stolen from an employee's office, home, or car. Another study found that insider breaches were the most damaging in terms of number of records compromised[16]. This same study found, however, that partner systems also were a contributor to data breaches.

It is not a question of "if" it will happen, but "when" it will happen, being prepared to handle the situation, and outsourcing solution providers generally have greater capabilities to handle the situation. Given their economies of scale, it pays for an outsourcing vendor to have security experts on staff and invest in network technology and physical security systems, whereas an MFI would have difficulty justifying the cost of even one full-time security specialist. In the eyes of an IT professional, outsourced solution providers are a more attractive employer because their business centers on IT, so the IT pro will work with the latest technologies and other highly skilled IT professionals. The result is that outsourced core banking providers can attract and retain higher caliber IT resources with better pay in comparison to an MFI, and therefore possess the complex skills and knowledge to prevent and monitor security breaches. They will have stronger computer and physical security systems. Their entire business is dependent upon their reputation and clients' trust, so their incentives are great to implement strong employee hiring and monitoring processes, to retain the best staff, and have robust security systems in place.

Even the most well known financial and technology institutions in the U.S. as well as government and educational institutions experience security breaches. This is an ongoing battle no matter the size of the organization or level of security in place. Outsourced solution providers are not perfect but in comparison to MFIs, they are generally better equipped to prevent breaches, recover data, and close any security loopholes.

CHOOSING TO OUTSOURCE A CORE BANKING SYSTEM IS NOT WITHOUT TRADEOFFS

1. **MFIs relinquish some control to the vendor, so vendor management is critical to success.** The MFI is still ultimately responsible and in control, but the day-to-day oversight and management is in the hands of the outsourced solution provider. This is a major reason for MFIs to outsource – to transfer responsibilities and tasks to a third party, thereby relieving the MFI of the burden and cost and allowing it to focus financial and human resources on more strategic issues. Detailed contracts and service level agreements are the tools MFIs have to assert their control when needed and hold the outsourced solution provider accountable.

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[15] Attrition.org, "Data Loss Archive and Database Open Source (DLDOS)," http://attrition.org/dataloss. See the Decision Guide document for a detailed discussion of this issue.

[16] Wade H. Baker and others, "2008 Data Breach Investigations Report," Verizon Business Risk Team, http://www.verizonbusiness.com/resources/security/databreachreport.pdf.

2. **MFIs may need to adapt some business processes to the vendor's product,** rather than adapting the product to the MFI's process. It may be less ideal but also less costly than trying to customize the product.

3. **The vendor's product release schedule may not match the MFI's plans.** This can be mitigated and the customer can have a greater voice in the product design if the vendor has a process for collecting customer requests and feedback. This tradeoff exists as well for in-house implementations of a commercial-off-the-shelf software package (COTS). Even with a custom-built solution, an MFI's IT staff is resource constrained and cannot implement changes as quickly as an MFI manager might like.

4. **The vendor's technology may not be state-of-the-art.** However, if the vendor has a history and base of satisfied clients, that is strong evidence that the solution is sound. As long as the technology is still supported by the original maker and does not limit the MFI's ability to integrate other desired functionality, the solution should be sufficient. Core banking software in developing countries may be based on more recent technology if the software is more recently developed.

HOWEVER, THERE ARE CASES WHERE OUTSOURCING IS NOT THE MOST APPROPRIATE SOLUTION

1. **If an institution is very small (fewer than 1000-2000 loans) and slow-growing, a simple in-house solution may be less expensive to run.** A simple software package run in-house on a few PCs may suffice and be less expensive than outsourcing, given the low IT staffing and infrastructure required. The Latino Economic Development Corporation case took this approach. They are quite small, with approximately 50-60 active loans. At least one vendor also found that it would not be affordable for MFIs when they analyzed the possibility of offering an outsourced version of their product aimed at small institutions ($50,000 - $400,000 in assets)[17]. If the MFI is experiencing rapid growth or has expansion plans, has a more complex or a wider variety of products and services, or wishes to increase or improve its offering of products and services, they should consider a more robust core banking MIS, at which point outsourcing could be the quickest and least expensive way to go online.

2. **The enabling environment may not exist for outsourcing to be a viable option for MFIs.** This issue is explored in depth in the next section. Outsourcing is relatively new in developing countries, so there are few vendors providing solutions for MFIs. These vendors may focus only in specific regions, so an MFI wishing for an outsourced solution provider in closer proximity to their operations may not find that one exists. Rule of law is critical because outsourcing depends on contractual commitments and service level agreements in order to succeed for both the vendor and the customer. Infrastructure is still a challenge in many developing countries, although in many capital cities good connectivity can be found. Regulations may prohibit where data can reside and transaction processing can occur.

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[17] Vendor Case Study 1 in the Decision Guide appendix.

ADDITIONAL OBSERVATIONS

1. **Biases are very strong regarding outsourcing.** Decisions to go in-house or outsource are often not based solely on a purely rational judgment, such as a cost/benefit analysis, so the business case must be very compelling in order to unseat these biases.

ENABLING ENVIRONMENT FOR OUTSOURCING

Outsourcing is clearly a successful approach in the United States and other countries, but it is a relatively new phenomenon in developing countries except at the largest financial institutions. It will take time to gain acceptance. In order for outsourcing to become a widely available and viable option for MFIs, the following issues and conditions need to be addressed:

1. Rule of Law, Enforceability of Contracts and SLAs, Effective Court Systems

2. Regulatory Oversight and Compliance

3. Infrastructure

4. Number and Capacity of Vendors

5. Customer Service Orientation

6. MFI experience with vendor procurement

RULE OF LAW, ENFORCEABILITY OF CONTRACTS AND SLAS, EFFECTIVE LEGAL SYSTEMS

Rule of law enables the enforceability of contracts and service level agreements (SLAs) and provides the ultimate incentive for parties to comply. Outsourcing is heavily reliant upon rule of law because the two parties involved, the MFI and the outsourcing vendor, enter into a long-term relationship, not a one-time product sale, and the vendor has physical possession of the MFI's data, so the MFI has more invested in the relationship. It takes time to build trust, but well-written contracts that define roles and responsibilities, service levels, accountability, and penalties for non-compliance provide a foundation for building trust. Serious disagreements can happen, and in that situation an MFI may have no recourse except to turn to the legal system to make their case. For example, MFIs may need to use the courts to force the vendor to pay the financial penalty as stipulated in the contract for not providing the agreed-upon service level. If there is no faith in the legal system, then there is less confidence in contracts. MFIs and all potential customers of outsourced solution providers will feel trapped if they feel powerless. This would be a difficult environment for outsourcing to operate in and grow.

REGULATORY OVERSIGHT AND COMPLIANCE

In the United States, financial regulation, which has increased in the last few years, may actually have helped instill more confidence in the solutions offered by outsourced solution providers. Regulators review the risk and risk management practices of these service providers. These providers must pass regulatory exams to ensure compliance with regulations and to show that they are following best IT practices, controls, and activities. The SAS 70 security audit is another strong means to assure to customers that their systems and data will be secure. The degree of regulatory review allows consultants or prospective customers to focus their product evaluation efforts on more strategic or unique

requirements and less time on common system functions. According to the product manager at Vendor X[18], governance has become the leading system requirement because all systems contractually agree to comply with U.S. federal regulations.

U.S. regulator involvement may have served to strengthen the products and services offered by outsourced solution providers. For example, below is an excerpt from Chain Bridge Bank's preliminary approval from the Office of the Comptroller of the Currency (OCC), the regulator of national banks[19], containing standard text requesting details about a de novo bank's information systems plans.

1. The Bank must submit to the OCC Washington D.C. Field Office for review … a complete description of the Bank's final information systems and operations architecture as well as the information systems risk assessment and management plan. This should include a schematic drawing and discussion of the following items: Vendor due diligence and contracts; electronic banking security mechanisms and policies; information systems personnel; internal controls; audit plans; and operating policies and procedures,….

2. The Bank must have performed an independent security review and test of its electronic banking platform. …. If the Bank outsources the technology platform, it can rely on testing performed for the service provider to the extent that it satisfies the scope and requirements listed herein. The review must be conducted by an objective, qualified independent source (Reviewer[20]). The scope should cover:

    – All access points, including the Internet, Intranet, or remote access.

    – The adequacy of physical and logical protection against unauthorized access including individual penetration attempts, computer viruses, denial of service, and other forms of electronic access.

In the outsourced environment, the outsourced solution provider bears much of the burden of meeting the demands from the regulator, but the bank is ultimately responsible. These regulations probably evolved in response to the growth in usage of service bureaus or third party processors, today known as outsourced solution providers, over the last 40 years. This study did not include a review of the regulatory environment with respect to the IT risk management and best practices at financial institutions in developing countries, but such a review would be useful and should examine whether more or less regulation is needed, whether regulations are a barrier to growth and adoption of outsourced services, or a booster or confidence-builder, as it appears to be in the U.S.

The regulatory environment for MFIs is different in that the degree of regulation varies and the regulations vary country by country. This is part of the difficulty raised by IBM: instead of a vendor serving one large market, as in the U.S., and one set of regulations, vendors in some developing regions would need to serve several large countries as well as smaller countries to be economically efficient and viable. Regulations regarding where data can reside and transaction processing must execute may need harmonization. However, regulations about IT risk management, best practices, and procedures do not

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[18] See Vendor Case Study 1 in the Decision Guide document.

[19] www.occ.treas.gov/interp/may07/ca801.pdf. This is part of the standard regulatory approval process when establishing a new bank.

[20] For additional guidance, refer to the FFIEC IT Examination E-Banking Handbook, pages 26-30, Information Security Program. The booklet is located at the Federal Financial Institutions Examination Council's web site http://www.ffiec.gov/ffiecinfobase/booklets/e_banking/e_banking.pdf.

need to vary significantly from country to country and may be a necessary condition for outsourcing to become more widely accepted and adopted by MFIs.

INFRASTRUCTURE

Reliable power and network connectivity are still critical concerns that need to be addressed in order for outsourcing to succeed. If the core system is hosted in-house and that location loses power or connectivity, all locations and systems that access the core system would be unable to connect to it - the bank headquarters, bank branches, automated teller machines (ATMs), points-of-sale (POS), mobile phones, etc. – unless there is a "batch" mode or other solution in place as a fallback, where transactions such as loan payments still execute but are "pending". They are batched up locally and when connectivity is restored to the core banking system, they are downloaded and fully executed[21]. With outsourcing, however, if an office loses power or network access, only that office is affected. Other offices and access points could still transact with the core banking system assuming they connect directly to the outsourcing vendor's data center and not through the office that is down.

Outsourcing allows MFIs to transfer most of the responsibility and risk to the outsourced solution provider, who often has the economies of scale to invest in multiple, redundant power sources, voltage regulators, backup generators, and redundant network paths. MFIs only need be concerned with the power for the office and connectivity with the outsourced solution provider (such as using a virtual private network (VPN). The outsourced solution provider is also more likely than MFIs to have the expertise to implement more innovative approaches to network connectivity, applying lessons from rural connectivity projects, for example, that are implementing voice-over-IP (VoIP), WiFi mesh networks, and WiMAX networks to provide "first mile" access (as opposed to the other term, "last mile")[22] to create an affordable community network in rural areas.

In some countries, the only reliable choice for network and Internet access is satellite, but it is also the most expensive option for an organization. In these countries the cost may be prohibitively high and render the outsourcing business model difficult to sustain if the outsourced solution provider is not able to pass on the costs to its customers at an affordable rate.

NUMBER AND CAPACITY OF VENDORS

Outsourcing is likely a viable option for U.S. small banks in part because outsourced service provision is a mature industry in the U.S.. In the U.S., the full complement of functionality is available or can be integrated with solutions from third parties, the systems are highly configurable or customizable, and there is a track record of satisfied customers. Most likely, these vendors' first products and services originally targeted the large banks, and over time they downscaled their product line to work for small banks, making outsourcing a viable option for even small banks.

The relative immaturity of the outsourcing industry in developing countries may partially explain why MFIs are more reluctant to select outsourcing as an option. In developing countries, outsourcing is a fairly new concept. Vendors may not view MFIs as an attractive customer segment to serve. A survey of the

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[21] Certain transactions may be disallowed in this situation, such as withdrawals, because the transaction does not happen in real-time so there is no way to check for sufficient funds.

[22] See the blog and studies cited at http://www.nextbillion.net/blogs/2008/02/04/expanding-rural-access-evidence-from-vietnam-mongolia-and-sri-lanka.

outsourced core banking system vendors operating in developing countries was outside the scope of this study, but there are probably several vendors, such as iFlex Solutions based in Bangalore, India. There are at least two outsourced solution providers serving the needs of developing countries in the health sector (www.voxiva.com) and in education and e-government (www.socketworksglobal.com). The lack of vendor choices means there is a lack of competition, which could lead to higher prices that make outsourcing appear more expensive than building a custom solution or buying a COTS package to host in-house.

Choices may be fairly limited for MFIs, not only for outsourced core banking solutions but also for basic hosting. In conversation with the CEO of Voxiva, in his experience in developing countries, he has not seen anyone delivering more than just basic co-location (which involves hosting the servers in a secure environment and providing the power, network connectivity, cooling, and fire suppression)[23]. He has not seen anyone offering the full suite of managed services that outsourced core banking solution vendors typically provide: application support, application upgrades, system administration, monitoring, maintenance, backups, and disaster recovery. He has seen some untidy and poorly run data centers at state-run telecommunications centers and even where only co-location is offered. This may be somewhat of a chicken-or-the-egg scenario: outsourcing is a new concept so there is not much demand from customers for full managed services, and because there is low demand the solution providers do not offer full managed services. The quality of data center management also may be attributed partly to lack of professionalism but also to lack of demand from the customer due to their inexperience with or ignorance of best practices in data center management.

CUSTOMER SERVICE ORIENTATION

In the United States, there are several well-known business mottos, such as "the customer is always right" or "the customer comes first", but this is not necessarily the mindset in other countries. This mindset, however, is critical to the success of both parties in an outsourcing relationship. Outsourced solution providers and customers are in a long-term relationship so if the relationship becomes adversarial, it could make for a very dissatisfactory experience lasting several years or leading to litigation. Outsourced solution providers need to satisfy their customers but avoid making promises they cannot keep, because their customers are the reference source for future customers.

The leading outsourced core banking vendors in the U.S. are viewed by their customers as partners and trusted advisors, not merely a vendor[24]. In the U.S. cases studied, there are vendors who view the customer relationship as more than a sale and a recurring revenue stream, but as a long-term relationship. These vendors provide value-added services for their bank clients, such as consulting services and assistance with the core system conversion process. Employee turnover is low at some of these vendors, resulting in a bank client having the same account manager for the entire period and an account manager who has a deeper understanding of their needs. Vendors take customer input seriously by establishing a formal process for receiving customer requests and feedback and incorporating that information into their product development decisions. Small banks in turn wish to reduce the number of vendor relationships they must manage. The incentive for the vendor is that the more a vendor can meet the customer's needs,

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[23] Justin Sims (CEO, Voxiva), in discussion with the author, June 2008. Voxiva operates in several countries in Latin America, Africa, Asia, and North America.

[24] Barry, cited for at least 2 vendors on p. 15 and 22.

the happier the customer is and the more likely they are to purchase other software and services from that vendor.

Customers, MFIs in particular, need to understand that they too have power in this relationship yet also be reasonable in their expectations of the outsourcing vendor. Two papers highlight the nature of outsourcing relationships and share some excellent tips. One emphasizes "shared vision and strategic engagement" and the relationship between customer and provider as being more than simply "buyer-supplier", that a strategic sourcing relationship is the basis for creating long-term value.[25] Another paper provides guidelines to creating an effective relationship, including a mutually agreed-upon governance model and principles and day-to-day operational details in the contract.[26]

Given the relative immaturity of outsourced solutions in developing countries, MFIs and outsourced solution providers may need to take a more collaborative approach to define and develop a solution and service that better meets the MFIs needs and approaches the level of service that is standard for outsourced core banking solutions.

MFI EXPERIENCE WITH VENDOR PROCUREMENT

MFIs are less accustomed to procuring an outsourced software solution, with a monthly recurring cost, and their procurement processes and budgets may not be set up for this type of procurement. This makes outsourcing more of a leap of faith and requires a leap in understanding of how software is procured, implemented, and operated. MFIs will need education about procuring an outsourced solution from an unbiased source.

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[25] CGI, "Principle-centered Sourcing: Guiding Principles that Shape Successful Outsourcing Partnerships," CGI, October 2006, http://www.banktech.com/whitepaper/Architecture/Infrastructure/principle-centered-sourcing:-guiding-principles-thwp1212966444702?articleID=19600036.

[26] Ramprasad Varanasi and Pradeep K. Mukherji, "Relationships at the Core of Successful Outsourcing Contracts," Ed by Avinash Vashistha, Tholons, August, 2007, http://www.tholons.com/nl_pdf/070731_Core_Successful_Outsourcing_Contracts.pdf.

CONCLUSION

Outsourcing is a viable and successful model with a long history in the United States, core banking MIS vendors offering outsourced banking solutions for MFIs are emerging, and MFIs are exploring this option. The TCO is clearly lower for outsourced solutions, and outsourcing vendors help U.S. small banks compete against the larger banks. These vendors act as trusted advisors and provide value-added services for their bank clients, such as consulting services and assistance with the core system conversion process. Data security is a concern for everyone and is not an inherent feature of outsourcing; studies show a high percentage of data breaches due to stolen and lost equipment such as laptops, disk drives, etc., and that insider breaches can be more damaging than partner breaches. Outsourced solution providers in fact can offer greater data security and reliability because they have the economies of scale to invest in backup and redundant power sources, network security experts, and physical and electronic security solutions.

Choosing to outsource is not without tradeoffs. MFIs relinquish some control to the vendor as part of the arrangement and objective, so vendor management is critical to success. It may be less costly for MFIs to adapt some business processes to the vendor's product, rather than adapting the product to the MFI's process. The vendor's product release schedule may not match the MFI's plans but this situation exists as well with a COTS vendor or an in-house IT team that is likely to be in high demand and resource-constrained. Lastly, the vendor's technology may not be state-of-the-art but if it has a track record of satisfied customers and has the flexibility to integrate with other systems, it should be a reliable solution.

Outsourcing may not work for everyone, primarily the smallest MFIs (fewer than 1000-2000 loans) and slow-growing MFIs, because their requirements are fairly simple and their TCO is already low. Some enabling environment challenges such as rule of law and stable and reliable power and network connectivity may eliminate the option to outsource. Network infrastructure continues to improve, however, as demand for the Internet and mobile communications grows and other network technologies rapidly develop and offer additional ways to connect and transact. If the enabling environment as a whole continues to improve, outsourcing will become more common in developing countries as more vendors offer solutions and competition drives prices down, resulting in improved customer service and more robust product offerings.

APPENDIX: CASE STUDIES OF U.S. SMALL BANKS

This section presents summaries of the interviews with the small banks, vendors, and consultants in the region to hear their perspectives on their core banking system implementation experiences. *These summaries express the point of view of the interviewee and are not meant to represent the opinions of the research team, except where noted.* In some cases, the interviewee commented on the draft of their summary and those edits were incorporated to provide clarification or corrections.

BANK CASE STUDY 1: OUTSOURCED FROM DAY ONE AT CHAIN BRIDGE BANK, N.A.

BACKGROUND AND PROFILE

Chain Bridge Bank is a full-service national bank, headquartered in McLean, Virginia. From its home page:

> Our goal was to establish a national bank, headquartered locally and familiar with local businesses, that could combine meticulous personal service with state-of-the-art banking technology. We envisioned a bank that could make quick decisions and tailor its products and services for McLean and Northern Virginia residents and businesses. Our founders were determined to create a bank that could keep costs low, passing savings, as well as service, along to its customers.[27]

Chain Bridge Bank, N.A. is a national bank operating under U.S. law, rather than Virginia law, chartered and regulated by the Office of the Comptroller of the Currency (OCC)[28].

It is a de novo bank[29], open for business since August 2007, and has currently one office with four teller windows and a staff of 15. Its asset size is over $60 million as of May 19, 2008[30].

Chain Bridge Bank
Type: National bank, "de novo"
Founded: 2007
Total Assets: $60 million
Type of Implementation: Outsourced
Key Benefits:
• Time to market
• Save IT-related costs (staff, hardware, disaster recovery)
• Ability to offer a lot of different services
Recommendations:
• Allow time to learn the system; no system is "turnkey"
• Have enough staff for the setup; setup is a lot of work

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[27] http://www.chainbridgebank.com/default.cfm.

[28] The Office of the Comptroller of the Currency (OCC) charters, regulates, and supervises all national banks. It also supervises the federal branches and agencies of foreign banks. See http://www.occ.treas.gov/aboutocc.htm.

BUSINESS ENVIRONMENT AND CHALLENGES

According to news accounts about community banking in the Washington, DC area[31], Northern Virginia's affluent population and strong corporate sector make it an attractive market for community banks. The macroeconomic picture starting in late 2007 is less rosy, with a sluggish economy, weak housing market and a tough interest-rate environment. Fortunately, for Chain Bridge Bank, it does not deal with subprime mortgages, learning from the struggles of other banks that dealt heavily in that market[32].

Chain Bridge Bank needed to select and implement a system well before the bank opened so that there would be time for the regulators to conduct their examination. U.S. banks must demonstrate to the regulators that they went through a due diligence process in selecting a core banking system provider. Regulators conduct a pre-opening exam and an exam six months after opening. Chain Bridge received conditional approval in April 2007 from the Office of the Comptroller of the Currency and opened four months later in August 2007.

SELECTION PROCESS AND SOLUTION DECISION

Chain Bridge Bank never contemplated hosting an in-house system. Its founders reasoned that it made little sense to invest $100,000 USD in hardware, IT staff, disaster recovery systems, etc. to run a sophisticated core processing system when they could pay somebody else to do it. In fact, they argue it would be hard to find any new banks that are opening now who are investing in the hardware and expertise to bring a system in-house. In their experience, it tends to be the older community banks that still run their core banking system in-house.

Chain Bridge has heard arguments that an in-house system offers more flexibility, but in their experience (from working at other banks and with other core processing vendors), these core banking systems are so customizable now that they can do nearly everything a bank needs. The U.S. vendors are very accommodating, they said. Chain Bridge felt that if they needed something done, they could find someone to do it for them.

They reviewed six vendors: Jack Henry, Fiserve, OSI, Harland, Fidelity (2 systems, ITI and another) and Gold Leaf. Chain Bridge did not rely on industry studies or evaluations of the core banking vendors to develop their short list of vendors. They knew the players based on their experience. They called the vendors they were interested in and did independent research, such as checking the financial viability. They tracked every step of the review process, using a matrix that listed all the vendors along the top and then categories classifying different aspects of service along the side.

They chose Jack Henry and Associates and are very happy with their decision. One reason they selected Jack Henry is that the vendor offered a comprehensive suite of products, a sort of "one-stop shop", which meant that Chain Bridge did not need to go elsewhere for other solutions. For these other solutions, some core banking vendors use a third-party service provider, but Chain Bridge thought that this would open the door to "finger-pointing", that the core banking vendor could blame yet another party for poor service.

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[29] Defined by the Office of the Comptroller of the Currency as a newly chartered bank open less than three years. For state banks, the time period is less than five years.

[30] http://www.ibanknet.com/scripts/callreports/getbank.aspx? bnid=usa_3597211.

[31] http://www.bizjournals.com/washington/stories/2007/11/26/daily40.html?ana=from_rss

[32] http://www.bizjournals.com/washington/stories/2008/02/18/story4.html?page=2

They said that they would rather hold one vendor accountable for the entire implementation, from the initial stages such as the setup and configuration to post-implementation when the vendor is providing ongoing daily operational support, enhancements, and upgrades. In the case of some specific services, such as loan documentation, there are only a few providers so banks have no choice but to use these other providers. Chain Bridge Bank does use a separate computer system for loan documentation.

The technology platform played into the vendor selection to a degree. At least two of the vendors use more recent technology, whereas Jack Henry is based on the IBM AS400 mainframe. Chain Bridge preferred the look and feel of Windows-based programs and thought they were easier to use, but heard that there were more security issues with Windows-based applications than with the AS400. The AS400 system is very reliable and widely used but lacks the graphical interface. It has a browser interface that gives it more of the look and feel of a Windows-based application but the system behind this is the character mode interface that is characteristic of mainframe systems.

Chain Bridge sparingly used a consultant to assist them with their core banking vendor decision. They preferred not to pay someone to do something they can do themselves, but with time running short they brought in a consultant at the end of the evaluation and selection process to validate their evaluation and help negotiate a price with the vendor. They felt the consultant was more effective with helping them consolidate all their ideas than with negotiating a price.

Chain Bridge did cite several benefits to using consultants. First, consultants can be the "bad guy" between the bank and the vendor, for instance telling the vendor that the price is too high a price. Second, the bank is responsible for performing the proper due diligence in selecting a vendor and consultants know the questions to ask. Third, using a consultant can help a bank prove to regulators that they went through a proper due diligence process. Regulators want to know that the bank thoroughly reviewed the vendor's product and service and confirmed that it meets regulatory requirements.

NEGOTIATIONS AND PRICING

Typically, the core banking providers have two pricing levels for banks, one for de novo banks and one for established banks. Jack Henry did not have an aggressive de novo pricing structure, but Chain Bridge was insistent and Jack Henry responded by presenting them with a better price structure. The vendor's profit margin with de novo banks is very thin, and the chance that a bank will change vendors once they have made their choice is low, so the vendors want to close the deal.

According to Chain Bridge, some vendors send the quote to the bank, some deliver it in person to the bank. It takes some time to digest it and understand the full meaning because the vendors are essentially offering the same product and services but have different pricing models. Some base the price on asset size, some on the number of accounts, and some have flat fees. Chain Bridge Bank pointed out that they thoroughly reviewed the specific details of the quotes because there were so many different components: loans, deposits, online banking, remote deposit capture[33], to name a few. They said they checked each individual component, identified where the vendors' prices differed, determined the amount of room for negotiation, and started price negotiations.

> "I kept on hammering and they came out with a better price structure."

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[33] Remote deposit capture allows a bank customer to deposit a check without visiting a bank branch, by using a scanner from their home or office to send the check image to the bank.

IMPLEMENTATION EXPERIENCE AND SYSTEM FUNCTIONALITY

Originally the contract terms stated that Chain Bridge Bank would go live in 90 days, whereas normally Jack Henry would need 120 days. Ninety days was feasible, but Chain Bridge changed their opening date because the bank building space was not finished in time. They did allow for plenty of lead time, most of which was required and used by the bank, not the service provider, to learn the system and set up the parameters. For example, they needed to set up their deposit products and their different accounts types. The vendors will say that their system is "turnkey" or ready to operate, but there is no such thing as turnkey for a sophisticated banking system or for any add-on products or services. Turnkey or not, thorough testing such as dry runs[34] are necessary. Chain Bridge had an independent IT audit performed before they opened for business.

Two people, the president and CEO, and the executive VP and chief credit officer, did most of the implementation from the bank side. As the opening date loomed closer, they hired two more people to help with the setup. These people are all bankers, not IT people. A few people worked a lot of long hours.

Chain Bridge recommends leaving enough room in the schedule to allow bank staff to become familiar with the system. Their director of operations joined the bank about a month and a half before it opened. This allowed her to become familiar with the system and help set up the bank. Other staff members such as tellers, account opening staff and back-office exception processing staff came on board two weeks before opening. Ideally Chain Bridge would have preferred to bring them on board earlier, but a start-up bank is under a lot of pressure to manage costs. Two weeks was sufficient time to teach the basics of the system and orient the staff to their operational procedures. A couple of trainers from Jack Henry come on-site as well to familiarize the staff with the system. After Chain Bridge opened, they encouraged their staff to take advantage of on-line training offered by Jack Henry. Their director of operations supplemented formal training with informal sessions. Over the past year Chain Bridge has had a couple of other trainers return to the bank to teach specific applications such as loan and tax reporting. It has been an ongoing process of learning the system.

If they had to do it over again Chain Bridge would have hired the additional people sooner because there was a lot of setup to do. They believe that one key to their success was the hard work of their employees. They had the right people willing to work hard to set up the system.

BENEFITS

As mentioned earlier, Chain Bridge is a de novo bank and never considered anything other than outsourcing, so comparing post-adoption performance to past performance is not possible. They believe it made no sense for a new bank to bring a core banking system in-house, much less build it from scratch, and would have also significantly delayed the bank opening date. In the opinion of Chain Bridge Bank, what outsourcing does is it allows them to offer a wide variety of services. If a customer wants to use a currently unavailable service, all the bank needs to do is contact a vendor and Chain Bridge can then offer the service to the customer for a fee.

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[34] A dry-run is a rehearsal or run-through of the system, by running mock scenarios and executing business processes on the system, to test and ensure that the system will execute the transactions correctly.

BANK CASE STUDY 2: HYBRID MODEL AT EAGLE BANK

BACKGROUND AND PROFILE

Eagle Bank, founded in 1997 and headquartered in Bethesda, MD, was formed to serve the needs of the small business community and small business owners in the Washington, D.C. metro area. They are primarily a small business commercial lender and try to cover any and all lending needs associated with small businesses and owners. As excerpted from Eagle Bank's Annual Report for the fiscal year ended December 31, 2007:

> The Bank was organized as an independent, community oriented, and full-service banking alternative to the super regional financial institutions, which dominate our primary market area. Our philosophy is to provide superior, personalized service to our customers. We focus on relationship banking, providing each customer with a number of services, becoming familiar with and addressing customer needs in a proactive, personalized fashion.
>
> The Company offers a broad range of commercial banking services to our business and professional clients as well as full service consumer banking services to individuals living and/or working primarily in our service area. We emphasize providing commercial banking services to sole proprietors, small and medium-sized businesses, partnerships, corporations, non-profit organizations and associations, and investors living and working in and near our primary service area. A full range of retail banking services are offered to accommodate the individual needs of both corporate customers as well as the community we serve. … We have developed significant expertise and commitment as an SBA lender, have been designated a Preferred Lender by the Small Business Administration (SBA), and are a leading community bank SBA lender in the Washington D.C. district.[35]

Eagle Bank
Type: Community bank
Founded: 1997
Total Assets: $900 million
Type of Implementation: Mixed but in process of outsourcing the CRM systems
Key Benefits:
• More affordable – estimated 25 percent cost savings, also due to consolidating two platforms into one
• Save IT-related costs (staff, hardware, disaster recovery)
Recommendations:
• Ask for tiered pricing
• Zero tolerance security policy - review the vendor's SAS 70
• Check references, make a site visit

Eagle Bank had 173 employees as of December 31, 2007[36], $900 million in assets as of Q1 2008[37] and nine branches in the Washington D.C. metro area (D.C. and Maryland). It is in the process of merging with Fidelity and Trust Bank, which has $500 million in assets, bringing the combined bank to $1.3 billion in assets and adding six more branches including one in Virginia[38].

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[35] The annual report can be found at
http://secfilings.nasdaq.com/filingFrameset.asp?FileName=0001047469%2D08%2D002757%2Etxt&FilePath=%5C2008%5C03%5C14%5C&CoName=EAGLE+BANCORP+INC&FormType=10%2DK&RcvdDate=3%2F14%2F2008&pdf=.

[36] Ibid.

[37] http://www.eaglebankmd.com/index.php?page=earnings-press-releases.

[38] The merger is scheduled to close in July 2008, based on interview with Eagle Bank.

BUSINESS ENVIRONMENT AND CHALLENGES

Community banks such as Eagle Bank and Chain Bridge Bank have arisen to address a perceived gap in the U.S. market. Larger banks headquartered in distant locations, with specialized departments located outside the community, lack community knowledge, said an Eagle Bank representative. For example, in commercial lending at the large banks, specific employees act in the role of loan originator and then the loan is shipped out of state for processing. The customer deals with several different departments and bank staff for just one loan. Small companies want a more personal relationship with their banker and want to bank with someone familiar with the context within which they do business.

Eagle Bank faces strong competition from these large banks headquartered outside of Maryland as well as from other community banks, savings and loan associations, credit unions, mortgage companies, finance companies and others providing financial services. The large banks have greater capacity to offer more services and higher lending limits, wider branch networks, and advertise heavily in the major media outlets, whereas the credit unions are exempt from taxation and the mortgage and finance companies face less regulation.

BANKING MIS ENVIRONMENT

Eagle Bank is running both in-house and outsourced systems, with most of their systems outsourced. They are currently in the process of outsourcing their client relationship management system (discussed further below). Most of the systems related to loan processing are in-house. The image processing and document management system is called Director from ITI, a division of Fiserv, one of the leading providers of core banking systems in the U.S. This system is image-intensive and includes all loan document images that are generated throughout the loan process. It was one bank staff member's opinion that performance would suffer and impact the bank's workflow if this was ever moved off-site.

Up until about two months ago, Eagle Bank's core banking system was partially hosted in-house and partially outsourced. The system, from the vendor Fidelity National Information Services, is a complex environment supporting all the core functions such as core accounting, imaging, electronic banking services, and statement rendering. It manages all products offered by the bank. The intermediate application server was hosted at Eagle Bank and the core database was at Fidelity, but recently Eagle Bank moved the application server to Fidelity's hosting facility.

Eagle Bank also runs several applications from Baker Hill, two that run in-house (at the time of implementation Baker Hill did not offer them in the ASP model) and one that is hosted by Baker Hill. The products are now available in the hosted model. Eagle Bank is in the midst of a migration to the ASP model and by the first quarter of 2009 all the Baker Hill systems will be hosted at Baker Hill. This case study focuses more on the Baker Hill systems and decision to migrate from an in-house to outsourced model.

The software products in use are as follows:

1. **One Point – currently hosted in-house**

    OnePoint is an integrated business banking customer relationship management (CRM) platform providing a common view of a customer for the banking team, from the first contact with the customer ("prospect") through the approval process, administration and management reporting. Through this shared data environment, One Point aims to streamline the flow of communication and information and ultimately the workflow of the banking team throughout the entire lending process.

OnePoint consists of individual modules that handle specific tasks. Eagle Bank is using the ReAct module, which performs collateral and exception document tracking for all their loans (e.g. tracks missing financial statements, missing insurance documents, etc.), and the Statement Analyzer (Stan) module, which provides a credit risk management function by analyzing financial statements of commercial customers as part of the loan underwriting process.

2. **Client Advisor – currently hosted in-house**

Two years ago Eagle Bank implemented Client Advisor, a CRM system from Baker Hill, as a sales tracking system to track calls and the entire client relationship[39]. Client Advisor tracks Eagle Bank's commercial loan pipeline including purpose, terms, pricing, and probability of closing. At any given time a user, at the push of a button, can pull up a view of the pipeline, and track significant activity between the loan officer and the client (such as calls and site visits as self-reported by the loan officer). This application integrates with Microsoft Outlook and therefore Eagle Bank finds it to be a powerful tool for their lending and sales staff.

3. **Bank2Business (B2B) – hosted by Baker Hill using their ASP platform**

Bank2Business is a browser-based origination system for loans, used to manage, analyze and make decisions on business credit requests. Bank2Business supports all sizes and types of business lending, from commercial to small business. It treats loan requests differently based on the request type and the credit exposure of the borrower. The automated workflow moves a credit from the initial structuring of the request through financial statement analysis, underwriting, up to the decision.

Eagle Bank hosts their core bank infrastructure, such as Windows servers and domain controllers, at a data center. The data center vendor is responsible for systems support, backups, and disaster recovery. The data center staff monitor, control, and audit the servers, under the supervision of Eagle Bank's IT team. Duties between Eagle Bank's in-house IT staff and their IT vendors are clearly segregated.

Eagle Bank's IT staff is divided into different groups based on the system they support – electronic banking, MIS support, etc. The system administration team consists of four people. This team provides corporate IT support services such as email and desktop machine support, and acts as an interface on IT issues between Eagle Bank and their data center vendor and outsourcing solution providers such as Fidelity and Baker Hill.

OUTSOURCING DECISION

Baker Hill CRM Solutions

Eagle Bank had wanted to go with Baker Hill's ASP platform from the start when they acquired Client Advisor. They have always been comfortable with the way Baker Hill handled Bank2Business as an ASP so they had no problems considering using Client Advisor in that mode. They could not, however, because at the time of purchase it was not available in the ASP platform, so their plan was to host it in-house temporarily. It has now been almost two years. Earlier this year Client Advisor became available in the ASP platform, giving Eagle Bank the opportunity to seriously consider outsourcing Client Advisor to Baker Hill. They waited for other Baker Hill customers to try the ASP platform first, heard positive

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[39] For more details about Eagle Bank's selection of Client Advisor, Baker Hill's case study of the Eagle Bank implementation is available at http://www.bakerhill.com/company/viewSuccess.asp?docID=7989.

feedback, and decided to make the move. At the same time as they migrate Client Advisor to ASP, Eagle Bank plans to upgrade both One Point modules (ReAct and STAN) to the latest generation of Exception Advisor and Statement Analyzer, and then they will retire One Point. According to Eagle Bank, it was an easy decision because they have been happy with Baker Hill.

Eagle Bank pointed out that they conduct thorough due diligence when considering outsourcing. They always depend on verbal references from other clients. They always review the vendor's SAS 70. If there is the slightest hint of threat or vulnerability, they say they will not go forward. If Eagle Bank is not familiar with the vendor, they may do a site visit to see the physical security measures in place.

Eagle Bank made the decision to outsource to Baker Hill but altered that decision mid-way through the migration. They delayed the migration project partly because they discovered that the Client Advisor network lacked a key security feature that existed in the Bank2Business system. The project was also put on hold because Eagle Bank and Fidelity and Trust Bank announced they were merging. Baker Hill has now added the enhanced security of IP Filter for access to the hosted system, and EagleBank will move forward with the project after the merger completes. The result is that the migration is delayed by approximately one year.

BENEFITS AND COST SAVINGS

Eagle Bank believes that the ASP model is more affordable for them. In their opinion, it reduces their IT staffing requirements, requires fewer servers to be maintained in-house, and reduces their overall license costs. For in-house systems, tasks such as maintaining data integrity, backups, and disaster recovery are harder, more expensive, and require more work. It is much easier to make sure the vendor performs these tasks than it is to do them yourself.

Eagle Bank performed some cost/benefit analysis, particularly with the Advisor platform. They estimated that they will save approximately 25 percent annually as compared to maintaining and hosting Advisor and One Point themselves. It is important to note that this cost savings is partly due to their consolidating two Baker Hill systems into one, and not purely due to outsourcing. Eagle Bank will be paying for maintenance of one system instead of two and will also save on licensing costs (licensing is based partly on transaction volume and partly on user volume). They will free up several servers that they can repurpose for other uses in-house. Otherwise if they continue to maintain the systems internally Eagle Bank will have to purchase six new servers. Baker Hill also gave Eagle Bank a substantially discounted introductory price so the initial savings are significant also.

BANK CASE STUDY 3: IN-HOUSE MODEL AT THE LATINO ECONOMIC DEVELOPMENT CORPORATION (LEDC)

BACKGROUND AND PROFILE

The Latino Economic Development Corporation (LEDC) is a community-based economic development organization, founded in 1991 as a private, non-profit 501(c)(3) corporation.[40] Its mission is to improve the wealth-building capacity of low- and moderate-income Latinos and other underserved communities in the Washington, DC area. To that end, LEDC provides services in three fields—small business

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[40] http://www.ledcdc.org/index.php.

development, homeownership counseling, and affordable housing preservation. Its small business development activities include microloans, technical assistance, training, commercial façade improvement, and organizing services. For instance, in 2007 LEDC trained 616 small business owners in 31 different courses or workshops, and consulted to 359 business owners and aspiring entrepreneurs[41].

LEDC is a U.S. Treasury-certified Community Development Financial Institution (CDFI). There are many CDFIs throughout the United States, providing loans of $5,000-$15,000 to non-bankable individuals. As in developing countries, many business ideas are not "bankable" in the U.S., due to the entrepreneurs limited or poor credit history. In the U.S. microenterprise development/microlending sector, the typical default rate is 7-10 percent, as compared to 2-5 percent in the commercial lending sector[42].

LEDC is the smallest of the financial institutions profiled in this study in terms of loan activity and portfolio size, and is also small compared to many MFIs in developing countries but in scale and scope it is a closer parallel than the other two cases studied. Its loan portfolio is currently $750,000 with approximately 50-60 active loans and a maximum loan size of $50,000. The current microloan team has been in place for about two years (three staff members in 2008), with 25 employees in total.

> **LEDC**
>
> **Type:** Community Development Financial Institution (CDFI)
>
> **Loan Portfolio:** $750,000
>
> **Type of Implementation:** In-House
>
> **Key Reasons:** Control, touch with clients
>
> **Key Benefits:**
>
> - Able to scale cost-effectively
> - Improved forecasting for risk and fundraising needs
> - Tasks are much easier, more efficient
> - Operate more professionally

BUSINESS ENVIRONMENT AND CHALLENGES

Recent changes in the team – the hiring of a new microloan program manager with past experience at the World Bank and IFC, and an administrator more proficient with spreadsheets – have contributed to a spike in the loan program's activities. In FY2006, LEDC gave nine microloans and in FY2007 that number grew to 30. Their FY2008 target is 65 new loans (35 to date) and 100 new loans in FY2009. They will likely add staff later this year.

LEDC knew that their existing system of spreadsheets would not be able to sustain their operations given their growth plans. They needed instant risk reports but it took days to get these reports. Billing took two days and was complicated and required manual intervention, valuable time that managers could ill afford. Only one or two people in the organization were proficient enough with spreadsheets to retrieve the data and reports needed, and even then it was a tedious, onerous task.

SELECTION PROCESS AND SOLUTION DECISION

When LEDC began their search for a new system, their first inclination was to outsource, to reduce the responsibilities, staffing, and costs of maintaining an in-house system, so they first investigated core banking service providers. Their primary functional requirements were fairly simple: that the system is able to log payments and calculate interest. The Connecticut Housing Investment Fund (CHIF) contacted LEDC. CHIF is a nonprofit institution, similar to LEDC but focused on housing. It also provides loan

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[41] http://www.ledcdc.org/images/stories/annualreport.pdf.

[42] Based on interview with LEDC, April 15, 2008.

collections service and charges a fee ($15-25 per loan per month). A vendor from New York City was less expensive but was not as good a fit and had no collections service. Several months later, LEDC reviewed ACCION Texas. They have various solutions – an underwriting engine, loan documentation, loan servicing – and host their system. They had a fixed fee for setup, and have a tiered fee structure[43]. The total cost would have been similar to CHIF.

Ultimately LEDC decided not to outsource. They cited loss of control and loss of personal contact with the client as the factors that led them to pursue an in-house solution. Their main concerns included the following:

- The service provider would be collecting the loan on LEDC's behalf and the client always has a story which LEDC would not hear first-hand. In the case of ACCION Texas, LEDC would have had to contact Texas to get this information and contend with the time difference.

- The work involves mainly logging the payment amount, which LEDC felt their staff could do at the same or lower cost.

- LEDC receives much of their funding from the District of Columbia government which likes to see the money stay in the District. DC government officials would likely question why large amounts of money were going to a company in Texas. They would be more willing to pay for additional staff at LEDC.

- LEDC wanted to have more flexibility to work with the system than they felt they would have with an outsourced solution.

LEDC switched their focus and began researching software packages. They had previously implemented a client tracking system and were not very satisfied, so there was some trepidation about selecting another IT system. They also had little time to do the in-depth analysis that is usually recommended, such as fully documenting the requirements and business processes. They compared two systems, DownHome Loan Manager and TEA – The Exceptional Assistant. DownHome is designed specifically for non-profit community lenders and has one of the largest customer bases in this sector. DownHome's costs were $5000 to purchase the software, $1000 per year for maintenance and support. This includes new versions, upgrades, and patches. TEA had more functionality, cost $18,000, and seemed to be more beneficial to larger institutions (with more variation in loan terms, for example). LEDC could not afford TEA's price tag, and given their projected growth in the next 3-5 years, they felt that DownHome would satisfy most of their needs. They did not want a lot of functionality that while useful and beneficial, was not really necessary for their operation and might get in the way of the functions they needed most. They decided that a package that met at least 80 percent of their needs would be sufficient.

The entire process to settle on the approach and select a package took one year (effort was part-time). LEDC implemented DownHome in September 2007.

IMPLEMENTATION EXPERIENCE AND SYSTEM FUNCTIONALITY

LEDC is running the Select Edition with the following modules:

- Multi-user network system and license

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[43] For example, 1-100 loans might be $25 per loan, 101-500 loans is $22 per loan, etc. These numbers are purely illustrative and are not the actual cost.

- Projected Earnings Module

- Trend Analysis Module

- Loan Loss Reserve Module

- Credit Bureau Reporting Module

- Capital Manager Module

They received a discount on the Credit Bureau Reporting module, due to their membership in the Credit Builder's Alliance (more about this below). Otherwise, they paid the list price.

DownHome is a client-server application running on a Paradox database. LEDC has 4-5 PC clients accessing the database. It was straightforward for their IT person to install. They required a couple of days to convert and load the data from their spreadsheets (about 30 active loans), and did a one-time reconciliation between their old system and DownHome. There is no limit on the number of loans the system can handle, but LEDC believes it is able to handle up to 1000 loans[44].

> "Billing used to be a two-day process too. I didn't have time to dig into the spreadsheet and the process was crazy. Now the process runs in under an hour and the system processes seven times the loans."

DownHome provided training and will train new employees. This training is included in their maintenance and support fees (20 percent of base cost).

One staff member is actively using DownHome, logging transactions in the system. A few users run the reports. LEDC receives a physical check for the loan payment and logs the payment, but is now considering implementing automated withdrawal, which is feasible because their clients are banked.

An interesting feature is that DownHome provides reports to credit bureaus through a service called Credit Builder's Alliance (CBA). According to CBA, "there are more than 1,000 community lenders in the United States that want to report the repayment history of their borrowers – but have been unable to meet credit bureau minimum loan requirements individually." [45] The minimum is 500 active loans[46]. CBA acts as a data processor and aggregator to collect the data from CDFIs like LEDC and send it to two of the main credit bureaus in the U.S., Experian and Trans Union.

LEDC is now in Phase 2 of their implementation of DownHome. They purchased an add-on module called Capital Manager, which allows the institution to track repayment to sources of capital (such as the Small Business Administration (SBA), banks, or grants), as well as loan loss reserves, different loan terms for each capital source, and actual funds available for more loans. They can now also see several months out the rate at which they are making loans, when they may run low on funds and need to fundraise, enabling them to better manage risk.

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[44] Microfinance Gateway reports that the size of the institution using this product has fewer than 5,000 clients. http://www.microfinancegateway.org/resource_centers/technology/iss_software/view_software/25842.

[45] http://www.creditbuildersalliance.org/about/creditbureaus.htm.

[46] http://www.creditbuildersalliance.org/news/NewAlliance.htm.

BENEFITS

To view the portfolio at risk, it used to take LEDC at least two days to run through their spreadsheets. Now they run a report and receive the results in a matter of seconds. The billing function, which once took two days and was a "crazy" process, now takes less than one hour to process seven times the number of loans the old system handled.

LEDC considered a new system to be critical to their ability to scale. DownHome gives them consistent data on balances and principal amounts that LEDC can provide to the borrower. The system forces them to follow processes. Previously with the spreadsheets, users had a lot of latitude. They could put a loan "on hold", for instance if a borrower was out of town but the loan officer knew that repayment would be made upon return. This could lead to problems, making a loan appear to be inactive by making this exception. With DownHome, staff must make formal arrangements with the borrower in this situation. LEDC feels that the system has helped them operate more professionally.

CONCLUSION

LEDC is happy with their decision and very satisfied with DownHome Loan Manager. They are now able to scale their operations cost-effectively to meet their growth targets and more empowered to manage their day-to-day operations as well as forecast potential risk and fundraising needs. Their processes are now more systematic and consistent, contributing to more consistent and reliable data and reports.

As an observation from the research team, it appears appropriate for LEDC to use an in-house system today, because their operation is relatively small, with just 50-60 active loans and correspondingly their system requirements are fairly simple. This leads to low IT staff and infrastructure costs, which means the main driver to outsource is not strong. LEDC's decision is also consistent with the statement from Vendor X of Vendor Case Study 1[47], in which they considered creating an outsourced version of their product aimed at small institutions ($50,000 - $400,000 in assets) but their analysis revealed that it would be more expensive than the in-house version.

There may be a time when LEDC's operation will grow to the point that they will outgrow DownHome's capabilities and technology[48] and need to reconsider outsourcing to reduce the cost of supporting their core banking system. In the meantime, however, LEDC is gaining valuable experience in managing a core banking system, from all perspectives - IT, business process, user experience, data management, reporting, and vendor management – which will serve them well in the future should they decide to outsource. They will be a more educated client, better able to evaluate and manage outsourcing solution providers, and therefore more likely to have a successful migration and implementation.

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[47] Vendor Case Study 1 is in the Decision Guide appendix.

[48] Paradox is a desktop database, largely superseded in the marketplace by Microsoft Access, but still in use.

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