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ICT Outsourcing Options for MFIs

This microNOTE looks at the issue of whether outsourced MIS solutions can sufficiently resolve the MIS, IT capacity, and infrastructure challenges of MFIs and enable them to perform more effectively and focus on their business goals. For organizations considering outsourcing, this document addresses implementation options, key decision factors, data security, and recommendations for vendor selection.

INTRODUCTION

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.

Outsourcing Terminology

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 refer to hosting a system on the MFI'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

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, the vendor develops and supports the application software, providing new releases, patches, bug fixes, upgrades, and enhancements. 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. The usual pricing model is that the customer pays a monthly fee instead of paying a large fee up-front to purchase a software license.

MFIs are reticent about adopting outsourcing, however. 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. According to the Consultative Group for Assistance to the Poor (CGAP), small banks in the US 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 $1 billion in assets) used hosted or ASP deployments[1].

The objective of the research documented in these papers 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?

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[1] 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

Given the long history of outsourcing in the U.S. financial sector, and its prevalence at US 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: 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 US financial institutions are included in the appendix of the 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. Both

documents include a bibliography of additional resources. The reader should review the Business Case first, then the Decision Guide.

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[2]. Outsourcing has existed in the US banking industry for 45 years, referred to then as a "service bureau" or "third party processing,"[3] 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[4], 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[5]. 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[6]. 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 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

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[2] 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).

[3] Ibid.

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

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

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

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 US. 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 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[7], competition is beginning to emerge which may lead to improved service and better pricing for MFIs.

Very small (fewer than 1,000-2,000 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

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[7] 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

manage. Vendors may also find that they cannot make a business case for outsourcing to very small MFIs.

CORE BANKING SYSTEM IMPLEMENTATION OPTIONS AND DECISION FACTORS

Today MFIs have three main options to implement a core banking system: build a system from scratch ("custom development"), buy a software package (COTS), or outsource. To decide which option is best, the following are the main decision factors an MFI should consider:

- Implementation time/time to market and the opportunity costs

- Total Cost of Ownership (TCO), which includes both tangible and intangible costs as well as ongoing costs

- The breadth and depth of requirements the system must satisfy

- Need for frequent customizations and changes

- Availability of qualified, reputable, and viable software vendors and outsourced solution providers

- Skill and availability of IT staff and within the local IT sector

- Technology preferences

- System availability, performance, and security

- Regulations or government policy governing financial information, IT systems and electronic data

- Other priorities

Table 1 below summarizes the reasons to choose each option, the reason why the option may not be the right choice, and the keys to success for each option:

Regarding TCO, there are hidden costs that organizations typically overlook. What may look like the lowest cost approach could be the most expensive in the long run, and what may appear to be the most expensive approach initially could be the least expensive over time. For some MFIs, however, other issues will trump TCO. There are many variables to consider, cost-related and non-cost related, so a TCO calculation should not be the only criteria used when deciding whether to go in-house or outsourced. For example, the value an MFI places on the ability to call a vendor when there is a system problem versus being responsible for resolving it themselves will vary. Conversely, the value an MFI places in having servers on-site and under their direct control will vary. Each MFI must determine its own

Table 1. Summary of Decision Factors for Each Implementation Option

Implementation Option - Build from scratch	
Reasons to Choose this Option	• Have unique or frequently changing requirements • Can build to meet exact requirements, processes, and policies • Have an IT team that can do the work • Want to host the system in-house • Vendor choices are limited
Reasons to Not Choose this Option	• Longest implementation time • Highest TCO • Most complex to manage
Main Success Criteria	• Stable, qualified, and experienced IT staff and management • Availability of qualified IT professionals in the local market • Stable and sufficient internal infrastructure for in-house hosting
Implementation Option – Buy a software package	
Reasons to Choose this Option	• Faster implementation time • Lower TCO • Less complex to manage • Want to host the system in-house • Don't have an IT development team to build the software
Reasons to Not Choose this Option	• Software packages on the market don't sufficiently meet requirements • Don't want to depend on the vendor for software changes • Implementation time is still too slow • TCO is still high, especially up-front costs • Still complex to manage
Main Success Criteria	• Stable, reliable software package that meets most of the requirements • Qualified, reputable, viable software vendor • Enforceability of contracts • Stable and sufficient internal infrastructure for in-house hosting
Implementation Option – Outsource	
Reasons to Choose this Option	• Fastest implementation time • Lowest TCO • Least complex to manage • Don't have an IT team that can build or host the system in-house
Reasons to Not Choose this Option	• Outsourced solutions don't sufficiently meet requirements • Don't want to depend on vendor for software changes and hosting support • Want to use a different technology than the vendor is using
Main Success Criteria	• Stable, reliable outsourced solution that meets most of the requirements • Trusted partnership with the outsourced solution provider • Explicit contracts and service level agreements (SLAs) • Enforceability of contracts • Stable network connectivity and sufficient network bandwidth with the off-site data center

priorities and "bottom line" decision criteria.

Data Security

Data security is one of the most frequently cited objections to outsourcing so this microNOTE delves into this particular decision factor in greater detail. Security breaches are more common than one would think. Most cases are not publicized but they are a fact of life in today's increasingly electronic, wired world. No one is immune; JP Morgan Chase, Bank of America, Wells Fargo, IBM, Hewlett Packard, AT&T, have all been breached, as well as many government and educational institutions[8].

An analysis of the data available from attrition.org[9] reveals that the main cause

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[8] Attrition.org, "Data Loss Archive and Database Open Source (DLDOS)," http://attrition.org/dataloss. This has now migrated to Open Security

Foundation, "OSF Dataloss Database beta," http://datalossdb.org/.

[9] Data was retrieved on May 31, 2008 from attrition.org/dataloss/dataloss.csv. This is a comma separated value file that can be easily imported into Excel as well as various flavors of relational database. The attrition.org data goes back to 2000 but most of the data tracked begins in 2005 and is kept current. The data includes the number of records at risk and whether an arrest or prosecution was pursued.

of breaches tracked at financial institutions was due to stolen equipment[10]. A recent report from the Verizon Business RISK Team on over 500 forensic investigations conducted by Verizon[11] found that while insider (employee-caused) breaches accounted for just 18 percent of the data breaches (external sources accounted for 73 percent, and 39 percent involved partners[12]), insider breaches were the most damaging. The median number of records compromised during an insider breach exceeded that of external breaches by a factor of ten and was twice that of partner breaches[13].

The data shows that many breaches are preventable through tighter controls over data replication, storage, and transport, and also shows that both insiders and partners are to blame for many breaches. The issue is not *if* a data breach will occur, but *when*, so the question becomes, who is more capable of recovering the data and closing the security hole? MFIs have valid concerns but should consider whether they have more resources, both human and financial, than an outsourced solution provider, to prevent security breaches, and weigh this against the risks and their tolerance for the risks and consequences.

TIPS AND RECOMMEND-ATIONS FOR VENDOR SELECTION AND SYSTEM IMPLEMENTATION

These tips and recommendations are based on the researchers' interview with Catalyst Consulting Group, a consulting firm founded in 1998 to provide strategy and implementation consulting services to the banking and credit union industry.

General Advice and Recommendations

- MFIs need to decide if technology is their core competency or not, where they are willing to invest capital and resources, and their TCO and expected return on investment.

- Vendor selection can be a complex decision. Consultants can help if an MFI can afford one. If not, there are other resources to help make the decision, create request-for-proposals (RFPs), etc. The Charles Waterfield document about an effective MIS, written in 2002, is still applicable[14]. CGAP and the Microfinance Gateway are excellent resources. Other studies of outsourcing, such as for "on-demand" applications of "Software-as-a-Service," have good examples to help calculate TCO. See the Bibliography at the end of this guide for more information sources.

- A financial institution must manage the vendor by controlling the selection and implementation process. An MFI should steer the vendors to respond to its needs and questions the way they want them to. By doing this, the institution is laying the groundwork with the vendor and asserting its position. The vendor's response during the selection process will be a good indicator of the vendor's level and quality

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[10] Financial institutions listed in the csv file include banks, credit unions, community banks, credit bureaus, stock brokerages, money transfer companies, financial data processing centers, mortgage companies, and insurance companies. Financial institutions fall under the category of Business, with Government, Education, and Medical institutions being the other broad classifications of organizations that reported data breaches.

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

[12] The percentages add up to more than 100% because multiple causes were suspected in some breaches.

[13] Partners are any third party sharing a business relationship with the organization, such as vendors, suppliers, and contractors. Typically their systems are connected to each other to allow for the transmission of orders and invoices and other typical business transactions.

[14] More information is available at http://www.ccg-catalyst.com.

of service after the institution becomes a customer.

- After implementation the MFI must continue to manage the vendor. An MFI can outsource the task to a core banking system provider, but it does not outsource the responsibility. It should never outsource the management of the system, that is, the manner in which it is used, or the MFI's institutional knowledge.

Specific Recommendations Based on the Case Studies

- If an MFI has plans to grow, or offer a more complex suite of services, they should consider outsourcing.

- With outsourcing, an MFI may still need to scale up its Internet service, as more traffic will be going over their Internet connection.

- IT staff should be an integral part of the evaluation and selection process and the management oversight of the outsourced solution provider.

- Select a system with a track record, a history of positive customer references and a well-established base of customers.

- A system adopted by an MFI needs to be able to grow in sophistication as the MFI does. The MFI should pick a product that will establish a good foundation for future products or services.

- If an MFI is considering outsourcing, they should try to select a system that they can eventually take in-house, to give themselves as many options as possible. Part of the evaluation process must then include an evaluation of the technology and architecture of the outsourced core banking system, to ensure that the MFI's IT staff is familiar with the technology and can support it in the future.

- Pricing models vary from vendor to vendor, and MFIs may be able to negotiate a better price or a more beneficial pricing model. Ask for tiered pricing or whichever pricing model you want if the vendor does not offer it.

- An MFI should ask the vendor for an independent security audit report (similar to the SAS 70 in the US).

- Setup is a lot of work, so an MFI should plan to have enough staff and time for the setup.

- An MFI must allow time to learn the system. No system is "turnkey". Cutting training to save costs is self-defeating.

- It is important to fully analyze the TCO of any solution under consideration, whether it is a COTS that will be hosted in-house or an outsourced solution. The TCO must include the ongoing costs for the next three to five years, as often this is where the savings is seen in outsourcing.