Evaluating the ATM Insourcing / Outsourcing Decision

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SECTION I. Executive Summary

ATMs play a crucial role in the operation and profitability of retail financial institutions. Credit unions not only rely on ATMs to serve as a primary interface with customers, but to also generate fee income from customers of other institutions. As the number of ATMs deployed has increased over time, the corresponding number of transactions per ATM has slowed. This dynamic results in a decrease in overall ATM fleet profitability as per machine revenues decline. Adding to challenges faced by ATM deployers are technological advances allowing for full motion video, personalized transactions and messaging, and check image capture. While these advances offer new potential sources of revenue for deployers, the investment requirements to keep up with industry developments can be daunting.

To combat the challenges, many deployers have considered outsourcing ATM processing to a third party processor. However, the decision to keep ATM processing in-house or outsource is not simple. Managers of credit unions need to carefully evaluate many complex issues. A structured analysis of ATM processing options will carefully examine the **financial, operational, and strategic issues** involved with outsourcing to make the proper decision.

A comprehensive review of the **financial** issues considers the revenue and expense implications of a given processing strategy, both on a direct and an indirect basis, as well any capital expenditures. From a revenue perspective, uptime is the single biggest driver of ATM transaction volume. The potential revenue loss of a peak hour network failure can significantly impact the profitability of an ATM network. Processing uptime is therefore an important driver of ATM performance, and should be included in the evaluation of processing options. The other processing related revenue driver is functionality. New transaction types can increase foreign transaction volumes. In evaluating this, credit unions should consider the internal and external providers' ability to support a given functionality currently, or attempt to estimate differences in time-to-market for functionality not currently supported.

The major expense categories associated with supporting an ATM network are maintenance and servicing, technology support, network connectivity, network participation, back office functions, and opportunity cost of capital. Processing almost universally benefits from increased scale, meaning the incremental costs of processing transactions decreases as larger volumes are processed on the same platform. Specialist processors achieve significant economies of scale benefits by consolidating the resources necessary to process ATM transactions. These benefits often allow processors to offer the above listed services at a cost below what a credit union could achieve in-house. Back office costs are the exception in that many functions can be performed in-house even if a third party performs the data processing functions. Actual back office costs are generally a function of the number of ATMs and numbers of networks used, and are less dependent on transaction volume.

Comparing the economic benefits of outsourcing options to an in-house processing operation requires a thorough financial analysis. This analysis should be forward looking, meaning the financial model is designed to reflect the future ATM network needs of the credit union. The financial analysis must also be normalized such that the outsourcing and in-house options are evaluated as true substitutes for one another.

Operational issues include those downstream effects of the processing environment on back office functions and processes. The costs of developing new features and functionality can be significant for an individual credit union. A possible benefit from outsourcing is alleviating the need to develop technologies internally by relying on the dedicated R&D and platform support available from a processor. However, credit unions should consider their specialized processing requirements or internal R&D capabilities which allow for the development of solutions more quickly than might be possible with a third party processing solution.

Other operational considerations include the need to ensure platform reliability and implement data security measures. Experiencing extended platform downtime or a security breach could have a profoundly negative impact on member relations. Given the importance of these items, a credit union must weigh its current capabilities against any possible improvements and the loss of control associated with outsourcing.

Strategic issues take into account the effect on the credit union's performance and competitive positioning based on the processing capabilities and service levels observed. Specific strategic considerations include competitive differentiation, focus on core competencies, resource allocation, risk management, and subject matter expertise.

While ATM delivery is a critical component of the retail financial services value proposition, it is rare that a financial institution of any size can achieve and sustain competitive advantage by virtue of its capabilities in ATM processing. Credit unions may therefore find benefit in outsourcing by allowing its managers to focus and allocate resources towards core competencies, such as member services, instead of processing. Alternatively, a credit union might not want to surrender control of its ATM network if it means losing the ability to rely on feature/functionality innovation to support future growth.

By choosing to process transactions internally, a credit union incurs various operating risks. These risks include both operating failures as well knowledge concentration among a few key employees that could leave the credit union. Outsourcing transfers these operating risks to the third party processor, but replaces them with vendor management risk.

For each of the financial, operating, and strategic issues identified a credit union must evaluate the distinct advantages and disadvantages on a case by case basis. There is no simple answer as to whether or not credit unions should outsource their ATM networks. Instead, managers must individually and objectively evaluate the merits of in-house versus outsourcing options to select the best solution for their credit union.

SECTION II. Introduction

Financial institutions and other companies deploy almost 400,000 ATMs in the U.S. Deployers have a number of options for processing these ATMs, ranging from in-house solutions to turnkey third party provided (i.e., outsourced) solutions, with a variety of hybrid options in between. Furthermore, the tools and processes used to provide these processing solutions vary widely, in terms of hardware and software employed, as well as in the processes and people providing back office support functions. Selecting a processing environment and provider seems, at face value, to be a classic "make-versus-buy" decision, but given the unique role of ATMs in the retail delivery strategies of financial institutions, the decision is more complex. That is, ATMs serve three functions:

- Providing locational and time convenience for customers;
- Generating fee income from customers of other institutions; and
- Providing among the most frequent customer touch points for cross selling products and the like.

Given these multiple roles, the ATM processing decision is more complex than a simple cost analysis.

CO-OP Financial Services engaged First Annapolis Consulting to explore the range of issues affecting the ATM processing decision. This paper relies upon interviews with credit union managers and executives, discussions with processing provider representatives, analysis of industry data, and First Annapolis's extensive consulting experience in the ATM industry. It examines the decision process employed by financial institutions, particularly credit unions, to obtain processing support for their ATMs.

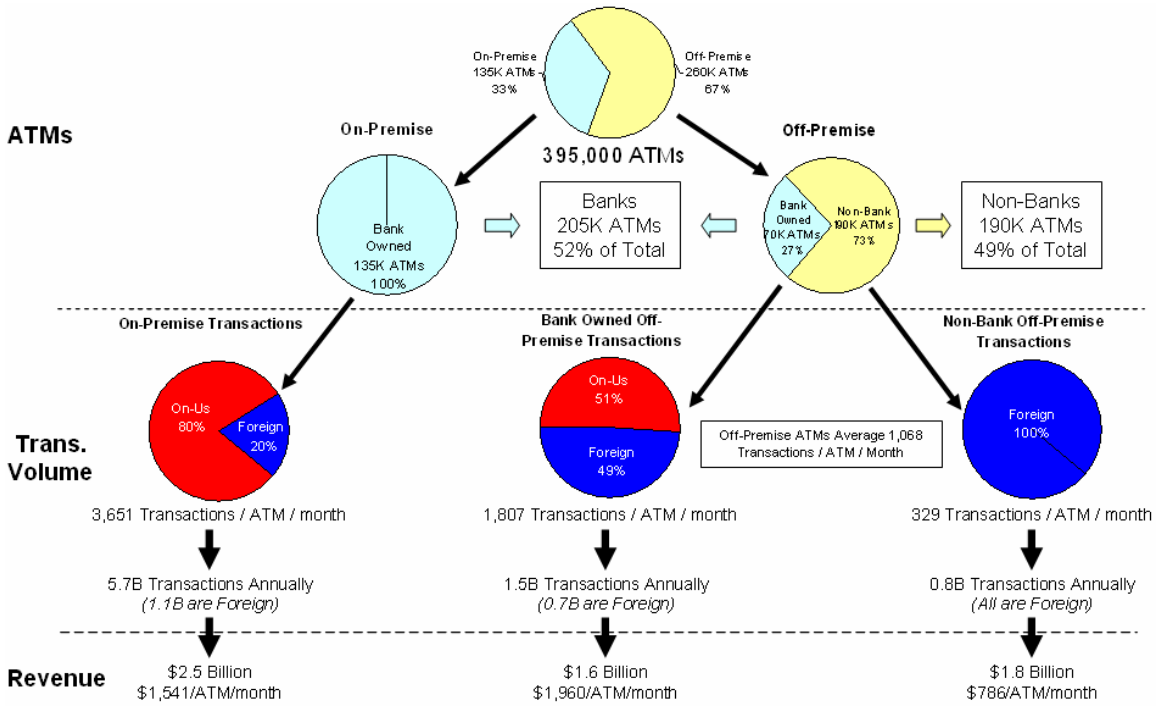
Specifically, we observed that ATM processing choices are shaped by **financial**, **operational**, and **strategic** factors. These factors are explored in detail in this report, supported by case studies from selected credit unions. The objective of the report is to provide a framework by which credit unions can thoroughly and methodically evaluate their processing options. While there is no single "right" answer for every credit union, virtually all can benefit by performing a structured evaluation of these decision elements in the light of the industry environment and their unique circumstances.

Industry Overview

ATM deployment increased dramatically over the past ten years, from 139,134 ATMs in 1996, to 395,000 ATMs in 2006, according to *ATM and Debit News*. Most of this increased ATM deployment has been in off-premise locations (those not located at bank and credit union branches). Off-premise ATMs increased in number from 51,207 in 1996 to 260,000 in 2006, or 66% of the market. This increase was primarily a result of widespread adoption of surcharging, and a host of new entrants seeking to capture a share of this new revenue stream. Usage of on-premise and off-premise ATMs varies widely. The average on-premise location is acquiring 3,651 transactions per month, and the average off-premise ATM is acquiring only 728 transactions per month. As a result, off-premise ATMs only acquire 36.9% of total transactions.

Figure 1

ATM Deployment:
On-Premise vs. Off- Premise

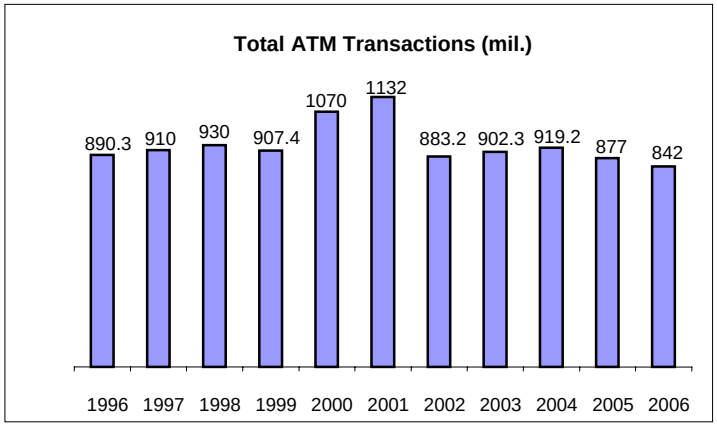


Sources: ATM & Debit News (2007 EFT Data Book), 2006 ATM Deployer Study, First Annapolis estimates.

While ATM deployment exploded, ATM transaction volume, particularly revenue generating foreign transaction volume (i.e. "Others-on-us"), failed to keep pace. As a result, average monthly transactions per ATM dropped steeply in the last ten years, from 6,399 in 1996 to 2,131 in 2006, with average ATM revenue experiencing a corresponding drop, which was only

partially offset by price increases. With slowing and declining per ATM revenue, ATM owners have focused on decreasing the costs of ATM operations.

Figure 2



Sources: ATM & Debit News (2007 EFT Data Book)

At the same time, today's consumers increasingly expect and demand free access to their accounts at conveniently-located ATMs. In response to this demand, large institutions such as Bank of America and Wells Fargo aggressively promote the benefits of their expansive ATM and branch networks, while smaller institutions join surcharge-free networks, engage in surcharge reimbursement programs, and consider ATM branding and wholesaling relationships with ISOs and banks. Meanwhile, ATM deployers are raising the bar on ATM functionality, deploying Windows-based terminals capable of full motion video, personalized transactions and messaging, and check image capture. Regardless of the strategy employed, providing convenient, feature rich, ATMs at a low cost is a competitive imperative for all banks and credit unions. In this industry context, credit unions must consider the optimal means by which to obtain ATM processing.

The ATM Processing Decision Process

First Annapolis research suggests that credit unions' ATM processing decisions are best considered as a function of three factors: **financial, operational,** and **strategic** implications.

Figure 3

- *Financial* issues consider the revenue and expense implications of a given processing strategy, both on a direct (i.e., costs for the services themselves) and an indirect basis (i.e., changes in costs of other functions resulting from the ATM processing decision), as well any capital expenditures.
- *Operational* issues include those downstream effects of the processing environment on back office functions and processes.
- *Strategic* issues consider the effect on the credit union's performance and competitive positioning based on the processing capabilities and service levels observed.

These issues are explored fully in the following sections.

SECTION III. Financial Implications

Decisions on processing in-house versus outsourcing processing universally consider the costs associated with each option. A comprehensive evaluation of the financial components of the ATM processing decision, however, has three main elements: revenue impacts, expense impacts, and capital requirements, which are discussed below. At the end of this section, we discuss financial modeling techniques that can be employed to evaluate financial aspects of the ATM processing decision.

A. ATM Revenue Categories

Generally, the majority of ATM revenues arise from two distinct sources: surcharges and interchange fees from ATM transactions by "foreign" customers (i.e. customers from other financial institutions using the credit union's ATMs). Credit unions also benefit from increased usage of ATMs by their own customers, as well as cross sales of new products to ATM users. Therefore, credit unions should consider the effect of the processing decision on *foreign transaction volumes*, revenue from additional *functionality*, and revenue from *product cross-sales* through the ATM channel.

Uptime is the single biggest driver of ATM transaction volume. Consistent uptime results from a stable platform, reliable telecommunications, and a closely monitored ATM network. The industry standard for best-in-class ATM availability is 98.5 percent. A one percent improvement in uptime would result in 3 additional days of availability per year, per ATM. For a credit union with 10 ATMs, such an increase would increase revenue by $10,000.[1] Further, since transactions are not initiated evenly throughout the day, network downtime on Friday at 6:00PM is a significantly bigger problem than downtime on a Tuesday at 3:00AM. The potential revenue loss of a peak hour network failure can significantly impact the profitability of an ATM network. Therefore, processing uptime is an important driver of ATM performance, and a crucial criterion in evaluating processing options.

Functionality can also influence ATM network performance. New transaction types, such as imaged deposits, or additional foreign languages supported, can increase others-at-us volume. This new volume can benefit the deployer through direct transaction revenue or as a reduction in branch servicing costs. In evaluating this element, credit unions should consider the internal and external providers' ability to support a given functionality currently, or attempt to estimate differences in time-to-market for functionality not currently supported. In the latter case, incremental revenue (or savings) should only be considered for the period in which one provider is in the market and the other is not.

[1] NCR website, "Uptime in Real Time", http://www.ncr.com/en/self-service/services_v_1.pdf

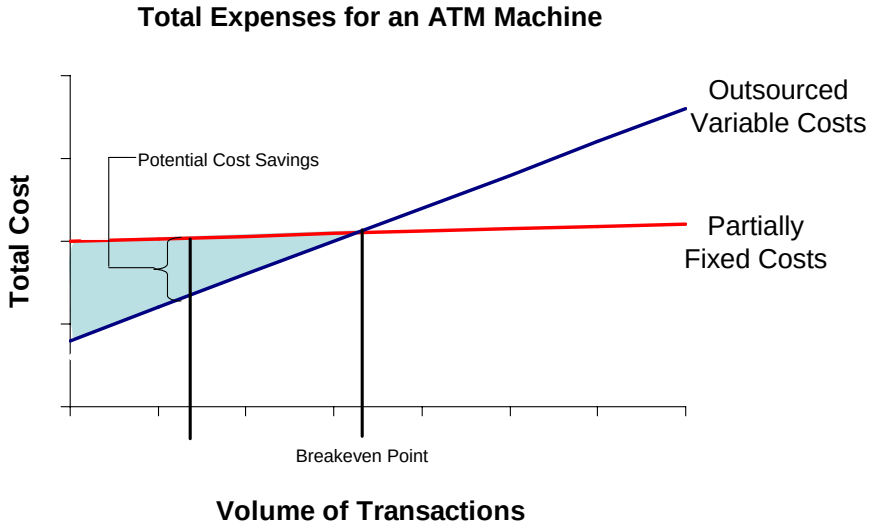
Some functionality may increase volume of existing transaction types. For example, transaction personalization, or improved graphics capabilities can enhance the overall customer experience, and thereby increase customer transaction activity.

One permutation of revenue improvement due to functionality is the benefit from **cross sales**. Advanced function ATMs allow for customer relationship management (CRM) strategies to be employed in customized product offerings to ATM users during wait times, or in a less-sophisticated version, promoting other bank products and services to all users. Revenue from successful cross sales should be considered in the ATM processing evaluation, to the extent that the vendors, internal or external, exhibit differences in capabilities.

B. ATM Expense Categories

As demonstrated in *Figure 4* below, outsourcing ATM processing converts mostly fixed costs associated with in-house ATM processing to more variable costs, based on the size of the ATM network. Fixed costs are defined as costs that are incurred over the long term (typically more than a year) and do not typically change regardless of the volume of transactions processed. On the other hand, variable costs fluctuate with the volume of transactions (or number of ATMs). An in-house solution can allow a credit union to realize lower per unit costs at higher volumes (economies of scale), while outsourced processing allows the credit union to avoid high initial investments, and thereby more closely match operating costs with volumes.

Figure 4



ATM outsourcing providers benefit from economies of scale in operating their platforms. These processors spread expenses such as software development, data security, disaster recovery, and network connectivity across many customers' ATMs. That is, processors can spread costs over thousands of ATMs while credit unions must perform/invest in similar infrastructure to support a dramatically smaller number of ATMs. Economies of scale allow processors to operate at a lower cost structure than all but the largest ATM deployers. Therefore, processors can deliver cost savings to credit unions, and still retain profits.

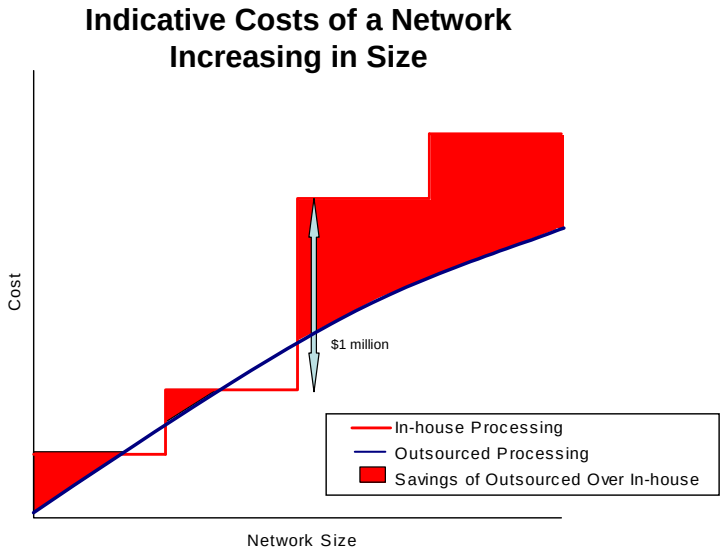
In the outsourcing decision, eliminating redundancies and accessing economies of scale in operations can financially benefit all member credit unions. Typical expenses, and their respective cost drivers, for maintaining an ATM network in both the in-house and outsourced scenarios include the following:

Expense Category	In-house Cost Driver	Outsourcing Cost Driver
Maintenance & Servicing	HR, transportation, parts inventory	# of ATMs; location, # transactions
Hardware	Depreciation and amortization	# of ATMs / Transactions
Software	Programming; licensing	Transactions
Network Connectivity	Programming; # of interfaces	Transactions
Research and Development	HR	Transactions
Network Participation	Transactions	Transactions
Disaster Recovery	HR; Facilities	Transactions
Back Office Function	HR; Facilities	Transactions

With the exception of Network Participation expenses (e.g., CO-OP, PLUS, STAR, etc.), all of the categories listed in the expense categories above are primarily fixed costs for an in-house ATM operator. The costs associated with in-house processing resemble a step function since no additional capital is needed to maintain the network until a certain volume level is achieved. *Figure 5* demonstrates this step function, where the cost to upgrade the processing system results in a jump to higher costs rather than a gradual increase over time. For example, as a credit union grows its network it might require upgraded server capacity. As discussed in Case Study C, this investment could include a $1 million hardware platform. Such an investment is a one time expense that supports the network until additional scale and/or functionality is required.

Outsourcing can smooth the cost curve by allowing the credit union to avoid large capital investments. By using a shared processing platform, outsourced credit unions eliminate redundancy in the system and benefit from the economies of scale that processors enjoy.

Figure 5



Credit unions need to understand not only the absolute level of costs related to in-house and outsourced processing, but how those costs will change over time, in comparing the financial aspects of the two options.

In evaluating the cost of in-house processing, credit unions must determine which internal expenses to consider: direct and/or indirect (i.e., overhead allocations), and total or marginal expenses. In conducting similar analyses for clients, First Annapolis will consider both direct and indirect expenses associated with both options, and reflect any anticipated changes in overhead or other indirect costs in an outsourced scenario. Similarly, First Annapolis will include total expenses in the analysis, and not just marginal costs. Managers may argue that the outsourcing business case should only consider those in-house expenses that can be eliminated through outsourcing, and not the total expenses associated with operating the business. This logic is flawed, in that it fails to consider the economic value of the resources that can't be eliminated, but become unused or partially used. For example, a computer operator may spend one half of his/her time supporting the ATM platform, and the other half on other functions. If ATM processing is outsourced, the operator can not be eliminated, or his non-ATM work will not be completed. However, the operator will now have excess capacity to perform other functions. If the operator's costs are decked completely to the ATM business, then the other activities will have zero costs associated with them. Therefore, to accurately measure the cost of in-house functions, credit unions should attempt to identify those expenses specifically attributable to the function under evaluation.

The following section discusses issues specific to the major ATM expense line items:

1. Maintenance and Servicing

First and second line maintenance generally cost between $250 and $375 per ATM per month. The functions can be performed in-house, or by third parties. Often, credit unions use a hybrid approach, with in-house resources (e.g., branch staff) performing first line maintenance (paper jams, etc.) and third parties doing second line tasks (i.e., those requiring parts or technical knowledge). Credit unions must consider costs related to training, transportation, parts inventory, and human resources for in-house servicing, and monthly cost, response time, and service levels in outsourced environments.

2. Technology

The hardware and software required to process ATMs represents one of the largest cost drivers. In an in-house environment, they are comprised of purchase or lease expenses for the hardware, and for software, licensing and maintenance fees, or salary and associated costs of in-house developers. In a third party processed environment, the cost of the technology is imbedded in the monthly or per transaction charges. Required or custom software development should also be considered in the cost analysis. ATMs require programming to maintain functionality and compliance with network mandates. These changes may include security upgrades (i.e. 3DES compliance), processing protocols, and functionality upgrades. In-house programmers are required to write code for these enhancements/association mandates, etc. In an outsourced environment, these

Case Study: Credit Union A

Situation

Credit Union A began to consider outsourcing processing when it was confronted with a potentially large hardware and human capital investment. The credit union was operating sixty ATMs and was considering adding more machines. To support its expansion it would need to invest in expensive operating equipment. With its in-house operating platform already experiencing reliability issues, management was concerned about its ability to adequately maintain its growing fleet.

In addition, the credit union did not have staff members dedicated to supporting its ATM network. Since it was experiencing more and more reliability problems, it was clear that it would need to dedicate full-time staff employees to try to improve the level of service it was providing to its customers.

Decision Process

Rather than purchasing additional equipment and hiring additional staff, Credit Union A decided to explore potential outsourcing solutions. After receiving several proposals the credit union was able to determine that continuing to operate its network in-house was actually marginally cheaper than working with an outside processor. However, outsourcing provided numerous intangible benefits not captured in the financial analysis.

Specifically, the outside processors were able offer specialized expertise that Credit Union A could not replicate. The processors were better equipped to support the ATM network on a day-to-day basis, but were also able to relieve Credit Union A of the burden that was keeping up with the every changing security requirements. Also, outsourcing would allow the credit union to relieve busy staff members of their network maintenance responsibilities and allow them to focus on other areas of operations. These intangible benefits led Credit Union A to seriously consider outsourcing.

Results

Credit Union A decided to outsource its ATM processing operations and has subsequently benefited from a dramatic improvement in network reliability. As a result, it receives fewer member complaints about machines being unavailable. The credit union was also able to re-deploy resources previously dedicated to supporting the ATMs to other important functions within the credit union. Finally, the credit union's marketing department has been able to take advantage of the custom screens and other functionality offered by its outsourcing partner.

enhancements frequently result in additional charges to the client based on a fixed fee schedule or hourly rates for programming.

3. Network Connectivity

This expense category consists of the cost of the telecommunications network and the cost of maintaining interfaces with the network. Economies of scale permit third party processors to negotiate attractive pricing with the telecommunication companies through volume discounts that may not be available to many credit unions. That said, a credit union that maintains a telecom network for its branches may be able to provide connectivity to its branch ATMs at a low cost via shared-use communication lines.

Maintaining network interfaces can be expensive and time-consuming. Financial institutions of all sizes, even those that process ATMs in-house, often decide to connect to one processor and allow that party to gateway transactions to all other networks for a per transaction fee.

4. Network Participation

From time to time, EFT networks require processors (including in-house providers) to support specific functionality requirements such as account-to-account money transfer, ATM deposits, or changes in message format. The networks also require processors to make changes to their systems to support evolving operating requirements. Triple DES stands out as a good example where processors needed to make capital investments to comply with network requirements. Many times these changes require capital investment outside of the "normal" budget cycle and must be made in order to accept foreign transactions. Generally, third party processors bear the cost of maintaining compliance with network rules. In other cases, such costs are shared among all of the customers of the processor.

5. Back Office Functions

ATM back office processing functions include cash management, monitoring and dispatching, ATM balancing and settlement, Reg E claims processing, and network settlement. These functions can be performed in-house even if a third party performs the data processing functions. Actual costs are generally a function of the number of ATMs and number of networks used, and somewhat less dependent on transaction volume.

In comparing the cost of in-house processing to outsourced processing, or the costs of two potential outsourced providers, credit unions should consider how these back office costs, which can be significant, will vary. For example, if one provider offers an inferior adjustments system, the credit union may require additional staff to perform the adjustments function. The cost of this added staff may exceed any savings associated with the processing services alone.

Therefore, a thorough analysis should consider the system functionality in light of back office efficiency.

6. Opportunity Cost of Capital

In addition to the income statement line item effects discussed above, the outsourcing decision should also consider the cost of/return on capital involved. That is, outsourcing can free up capital otherwise invested in ATM processing for other purposes. To evaluate the benefit of this savings, a credit union needs to evaluate its other options for capital deployment. Should the credit union have other investment options that provide higher returns, such reinvestment opportunities would favor the outsourcing business case.

Financial Modeling

Comparing the economic benefits of outsourcing options to an in-house processing operation requires a thorough financial analysis. This analysis should be forward looking, meaning the financial model is designed to reflect the future ATM network needs of the credit union. The financial analysis must also be normalized such that the outsourcing and in-house options are evaluated as true substitutes for one another. To that end, credit unions must be careful to capture all revenue generation and costs related to its processing options in a discounted cash flow (DCF) analysis, as shown in *Figure 6*.

For an in-house solution, credit unions must identify and capture all financial obligations to its ATM network. These items include hardware, software, human resources, maintenance and support, and facilities, among others. Importantly, resources that are shared with other departments within the credit union should have a cost associated with them that can be included in the analysis. Any one-time expenditures that support the ATM business should also be included.

The outsourcing options analysis must not only capture all of the expense line items proposed by the vendor, but also any conversion costs and internal changes likely to result from outsourcing processing (e.g., the reduction of HR headcount). A common mistake among credit unions is to treat elements of its in-house ATM network as "fixed" costs that cannot be eliminated by outsourcing. This mistake biases the processing evaluation by imposing higher costs on outsourcing options. Instead, credit unions should assume that assets currently supporting an in-house platform can be effectively redeployed within the organization. Such redeployment would eliminate the need to include these items as costs under an outsourcing scenario.

After identifying all costs associated with both outsourcing and in-house options, credit unions should create a pro-forma financial analysis. This pro-forma should model all options over a single time frame (i.e., the life of an outsourcing contract). To ensure that the financial model creates a true "apples to apples" comparison, a single set of ATM network growth assumptions should be applied to all options evaluated. These growth assumptions should include estimates for both the future number of ATMs as well as number of future ATM transactions.

The pro-forma analysis must also normalize the scope of services being compared across options. For example, including the cost of 1st line maintenance in the in-house analysis but not in the outsourcing analysis would unfairly bias the financials towards outsourcing. In this particular case, 1st line maintenance should be included in both the in-house and outsourcing financial models so as to ensure consistency of services across options.

Since the financial model encapsulates the expected costs over future years, discounted cash flow ("DCF") analysis can be used to synthesize the projections into a single, present day value. However, it is important to note that deal structure can influence the projected economics even in

a DCF analysis. For example, if an outsourcing contract calls for a large signing bonus to be paid to the credit union in year one, the DCF analysis could look very different than if the same signing bonus was spread across years one through five. Thus, it is important to view the financial analysis from both a DCF and annual P&L perspective.

Creating DCF valuations and P&L pro-formas will allow the credit union to compare the expected revenues and expenses of both in-house and outsourcing options. While creating a set of standard growth assumptions is necessary, credit unions should also conduct "what if" analyzes to measure cost sensitivities to operational changes. Examples of this sensitivity analysis could include the following:

- What if the number of ATMs grows 10 percent faster than expected? Or 10 percent slower?
- What happens to the financial projections if the credit union adds 15 more ATMs than expected? What if the number of ATMs deployed unexpectedly decreases over the life of the forecast?

Such analysis reflects the fact that even the best future projections rarely are completely accurate. Creating a variety of scenarios will allow credit unions to understand the implications of the processing decision should unexpected changes occur within its ATM deployment business.

The process of creating such a detailed financial model can be challenging and time consuming. However, doing so allows a credit union to accurately evaluate the economic impacts of operating its own ATM network versus outsourcing to a third party provider. Furthermore, creating a detailed financial model that normalizes both costs and scope of services allows the processing decision to be made based upon the best available information.

Figure 6

Illustrative Financial Modeling Exercise

In-House Processing	Year 1	Year 2	Year 3	Year 4	Year 5
ATM Terminals	40	43	46	49	52
Number of Transactions	1,440,000	1,512,000	1,587,600	1,666,980	1,750,329
Revenue Per ATM	$ 17,304	$ 17,823	$ 18,358	$ 18,909	$ 19,476
New Functionality Revenues	$ -	$ -	$ 47,279	$ 52,106	$ 57,426
Total Revenue	$ 692,160	$ 762,830	$ 887,994	$ 978,658	$ 1,078,579
Expenses					
Facilities	$ 27,600	$ 30,418	$ 32,547	$ 34,826	$ 37,263
Hardware	$ 110,400	$ 121,672	$ 130,189	$ 389,302*	$ 149,053
Software	$ 82,800	$ 91,254	$ 97,642	$ 104,477	$ 111,790
Salaries	$ 116,000	$ 119,480	$ 123,064	$ 126,756	$ 130,559
Telecommunications	$ 55,200	$ 56,856	$ 58,562	$ 60,319	$ 62,128
Network Connectivity	$ 60,720	$ 66,920	$ 71,604	$ 76,616	$ 81,979
Back-office	$ 49,680	$ 51,170	$ 52,706	$ 54,287	$ 55,915
Second Line Maintenance	$ 27,600	$ 30,418	$ 32,547	$ 34,826	$ 37,263
Total Expense	$ 530,000	$ 568,188	$ 598,860	$ 881,407	$ 665,951
Expense per ATM	$ 13,250	$ 13,275	$ 13,077	$ 17,987	$ 12,701
Expense per Transaction	$ 0.37	$ 0.38	$ 0.38	$ 0.53	$ 0.38
Net Income	$ 162,160	$ 194,642	$ 289,133	$ 97,250	$ 412,627
Net Present Value @ 15%	**$739,047.74**				

* Year 4 Hardware value includes $250,000 capital investment in processing network.

Outsource Processing	Year 1	Year 2	Year 3	Year 4	Year 5
ATM Terminals	40	43	46	49	52
Number of Transactions	1,440,000	1,512,000	1,587,600	1,666,980	1,750,329
Revenue Per ATM	$ 17,304	$ 17,823	$ 18,358	$ 18,909	$ 19,476
New Functionality Revenues	$ -	$ 42,899	$ 47,279	$ 52,106	$ 57,426
Total Revenue	$ 692,160	$ 805,729	$ 887,994	$ 978,658	$ 1,078,579
Expenses					
Processing Fees	$ 380,880	$ 392,306	$ 404,076	$ 416,198	$ 428,684
Back-office	$ 41,400	$ 42,642	$ 43,921	$ 45,239	$ 46,596
Network Connectivity	$ 66,240	$ 68,227	$ 70,274	$ 72,382	$ 74,554
Telecom	$ 60,720	$ 62,542	$ 62,542	$ 62,542	$ 62,542
Total Expense	$ 549,240	$ 565,717	$ 580,812	$ 596,361	$ 612,375
Expense per ATM	$ 13,731	$ 13,218	$ 12,683	$ 12,170	$ 11,679
Expense per Transaction	$ 0.38	$ 0.37	$ 0.37	$ 0.36	$ 0.35
Net Income	$ 142,920	$ 240,012	$ 307,181	$ 382,297	$ 466,204
Signing Bonus	250,000				
Net Present Value @ 15%	**$1,175,494.66**				

Case Study: Credit Union B

Situation

Credit Union B had been operating its fleet of approximately 35 ATMs on an internal platform for 15 years. Over time the credit union had retired several ATM machines and replaced them with newer models. During this time it had continued to invest in its ATM network platform to support hardware and software upgrades.

Throughout its history Credit Union B had developed a bias against outsourcing services to 3rd party providers. This bias was especially strong as it pertained to its ATM network since the credit union had developed unique functionality for its machines. Management was unwilling to give up the unique functions that it ATMs offered and was therefore reluctant to complete a platform conversion.

Decision Process

Credit Union B was forced to re-evaluate its ATM network infrastructure after its software vendor announced that it would no longer support the legacy COBOL core processing system currently in use. In response to this announcement the credit union decided to concurrently evaluate new in-house alternatives while running a request for proposal process for a full outsource solution.

During the ensuing months the credit union thoroughly evaluated the financial offers of outsource providers relative to its estimated in-house costs. In the end Credit Union B concluded that the hard costs of an in-house solution were marginally less that of an outsourcing arrangement. However, the outsource solution offered several advantages over continuing to support its own platform.

Specifically, working with a outsource provider would allow the credit union to re-deploy capital earmarked for the ATM business into other areas where it could generates additional returns. The credit union was also able to rid itself of the problems of providing 24 hour / 7 day a week support for its ATM machines. Most importantly, outsourcing the ATM network would allow the management team to focus its collective attention on the credit union's core competencies and not be distracted by the need to support a legacy ATM platform.

Results

After careful analysis, Credit Union B decided to outsource its ATM network to a 3rd party provider. Since that time network uptime and reliability have dramatically improved. Consequently the credit union receives far fewer member complaints.

Since there was little financial difference between the in-house and outsource arrangements, the decision to outsource was strategic for Credit Union B. Outsourcing allowed its management team to focus more of its time on running its core businesses. From a capabilities standpoint the credit union also came out ahead as its selected partner offered to fully fund the development of any unique functionality currently offered by the credit union's machines. Finally, Credit Union B was able to access to all of the additional features/functions that its partner has developed over time. This benefit will allow Credit Union B to keep pace with market developments at a more cost effective rate over time.

SECTION IV. Operational Implications

A credit union must examine the operational implications of outsourcing its ATM network processing. In this regard, a credit union must weigh its current capabilities against any possible improvements and the loss of control associated with outsourcing. While credit unions have found the promise of additional functionality appealing, many credit unions have later realized that increased functionality adds only limited value since most customers use the ATMs for deposits and withdrawals only. Nevertheless, ATM deployers realize some value by having additional functionality available (even if not used) since they can more quickly integrate new functions in the future.

A. Features and Functionality

Historically, ATMs have allowed customers to check balances and access their bank accounts to transfer or withdraw money. New technologies allow real-time and split-account deposits, the ability to pay bills and other money transfers, allow customers to buy stamps, phone minutes, local event tickets, and replenish mobile phone prepaid accounts or purchase other stored value products. The popularity of these additional options has not driven transaction growth as much as originally expected; however, these upgrades may contribute to the prevention of transaction volume erosion. As such, those networks without advanced features have shown greater decreases in transaction volumes than those networks with more advanced features. Added functionality, such as real time check scanning (in compliance with Check21 regulations) has driven the cost of transactions much lower than in the past. The elimination of envelopes and the manpower required to pickup physical checks both contribute to large reductions in costs for credit unions and banks.

The cost of keeping pace with other ATM deployers, however, can be significant. For ATM providers, the desire to keep pace with market improvements requires constant investment. Outsourcing the development and implementation of new features and functions could minimize and "smooth" the investment necessary to keep pace with competition.

To minimize the costs of offering new ATM services, credit unions could consider outsourcing ATM processing. Over the last several years ATM processors have made significant investments in developing supporting technologies for new product opportunities. By outsourcing, credit unions could benefit from participating in a shared platform where the cost of new development is spread across a large customer base. The shared platform also benefits participating credit unions because the processor performs extensive testing and security audits.

B. Platform Reliability

Shared platforms are both stable and highly redundant. Service level agreements (SLAs) inherent in an outsourcing contract assure that the quality of these features and functions will meet credit unions' expectations. Example service level terms could include authorization systems being available more than 99.5% of the time, while prompt daily reports are delivered 98% of the time.

A manager must realize that in order to capitalize on some on-site reliability improvements, it might be necessary to invest in the ATM machines. A credit union should take this potential investment into account when evaluating the outsourcing decision.

C. Data Security/Disaster Recovery

Disaster recovery is an important component of any ATM network to insure the continuity of business in the event of catastrophic loss. A single credit union could face a greater risk of security breach due to less immediate security updates. In the face of a new threat, a credit union must develop the security parameter or solution once it is notified of the issue. Alternatively, a centralized processor typically has the most up-to-date security parameters and dedicated staff to prevent loss of data.

Independent credit unions also face a greater geographic concentration risk. By outsourcing processing, a credit union increases the security associated with its network by having backup data available in more than one location. Should a catastrophic loss occur the credit union can recover using data backups provided by its processor from a remote location. Additionally, outsourcing processing eliminates the redundancy of multiple recovery systems thereby allowing the cost savings to be passed on to the member credit unions.

Case Study: Credit Union C

Situation

Credit Union C began operating an in-house ATM network with seven machines in a single city. Over time its ATM fleet grew to over sixty machines. Throughout this period of growth the credit union was required to make regular investments in additional hardware to support its ATM network. Expecting future growth, the credit union faced an important decision; continue to make expensive hardware purchases or consider outsourcing to a 3rd party processor.

Decision Process

Once Credit Union C's ATM fleet exceeded sixty machines it realized that its existing in-house solution lack the scalability to support such a large network. In response the credit union created a four person department whose entire mission was to maintain and support the network. Despite this investment, outages and downtime were frequent events resulting in numerous member complaints.

The problems of the in-house network, combined with the expense of supporting it, were taking a toll on Credit Union C's management. Key staff members were becoming increasing involved in the operations of the network and were unable to dedicate themselves to the core competencies of the credit union. As a result the credit union's CEO decided to contact an ATM outsourcing provider for assistance.

Results

Credit Union C quickly realized that outsourcing its ATM network was the right decision. Its outsourcing partner offered specialized expertise, a more reliable network, and a more attractive cost structure than any in-house solution. The only major concern that Credit Union C had about outsourcing was dealing with the dissolution of its four-person ATM network team. Fortunately, the credit union was able to re-assign all four team members to other positions within the company.

Since its conversion to an outsourced solution, Credit Union C's leadership has practically eliminated the need to actively manage the network. Network reliability has improved dramatically and costs have declined. Most importantly, senior management is now free to focus on the true mission of the credit union: to provide the best possible services and products to its membership.

SECTION V. Strategic Implications

Each credit union should carefully consider the decision to outsource, as the ATM is a primary interface with the credit union's customers. Outsourcing ATM processing has the potential to not only influence whether customers choose to continue banking with a credit union but also whether "foreign" customers choose to use a credit union's machines. Managers should consider all of these strategic implications in their decision processes.

A. Competitive Differentiation

While ATM delivery is a critical component of the retail financial services value proposition, it is rare that a financial institution of any size can achieve and sustain competitive advantage by virtue of its capabilities in ATM processing. That is, credit unions are unlikely to succeed in the market by virtue of superior ATM processing. Note that this statement is not in conflict with the premise that number, location, and availability of ATMs can be a differentiator. Rather, while processing ATMs at below market norms can be a negative (i.e., excessive down time), operating ATMs in a manner greater than or equal to market expectations will only allow credit unions to achieve competitive parity, not advantage. Therefore, the greater control retained in an in-house environment is unlikely to provide any material strategic advantage.

B. Risk Management

By choosing to process transactions internally, a credit union incurs various operating risks. These risks include operating failures resulting in service outages, financial losses, customer dissatisfaction or data security breaches along any point in the processing system. Outsourcing transfers this operating risk to the third party processor, but it is replaced with vendor management risk. That is, the credit union is at risk in the event of a vendor failure. These risks are normally mitigated by service level agreements, and contractual indemnifications from the vendor.

More importantly, the credit union must evaluate the relative likelihood of such a failure occurring in both in-house and outsourced scenarios. For example, a third party processor may provide a more secure network than a typical credit union can develop internally, which reduces the chances of a data breach.

C. Subject Matter Expertise

If credit unions support their ATM networks in-house, ATM processing expertise will likely be concentrated among a few key employees. This exposes the credit union to the risk that if these employees depart the credit union, this expertise leaves with them. Conversely, a small processing staff may be limited in its ability to keep current with industry best practices. By

outsourcing the processing function, a credit union buys access to greater breadth and depth of expertise.

D. Core Competencies

When evaluating the ATM processing decision, credit unions should determine if processing ATMs is a core competency. In other words, are the ATM operations centrally important in fulfilling the credit union's mission? The primary mission of most credit unions is member services. As such, a credit union should focus the majority of managerial time and energy towards this endeavor. If a credit union finds itself spending a disproportionate amount of resources on ATM processing, it may benefit from outsourcing processing to a third party.

E. Resource Allocation

As previously discussed, the maintenance and operation of an ATM network is capital intensive. Managers must decide if supporting an in-house ATM network constitutes an efficient allocation of capital. Some managers value the control provided by an in-house solution and are therefore willing to make investments and support the expenses associated with the ATM network. Other managers might consider ATM network operations to be an area of lesser strategic importance and would rather allocate funds to other investments.

Similarly, ATM operations are not only capital intensive, they can require significant management attention to be run effectively. Management could be called upon to deal with issues such as services outages, the implementation of upgrades, machine deployment decisions, and personnel management. By outsourcing, management frees itself to focus on its core business objectives. In cases where the financial rationale for outsourcing is ambiguous, the most often cited reason to outsource is the desire to save management time and eliminate these "hidden" costs.

SECTION VI. Conclusions

There is no simple decision rule for credit unions to follow when deciding who should manage their ATM networks. ATM outsourcing decisions should always be performed on a case by case basis. As described previously, each credit union must weigh the financial, operational, and strategic implications of available options.

Figure 6

Sample ATM Processing Evaluation			Raw Score		
Criteria		Assessment	In-House	Vendor #1	Vendor #2
Financial	**Revenues**	• Will uptime show improvement by outsourcing to a third party? • Will new transaction types or improved customer experience lead to more transactions and improved revenues?			
	Expenses	• Is the CU burdened by high fixed costs that could be reduced by converting to variable costs? • Under which option can the CU reduce maintenance costs? • Are technology improvements expected to increase in cost in the future? • By outsourcing, will the CU be able to reduce back-office expenses? • Are there other projects on which the CU can spend capital?			
Operational	**Features and Functionality**	• Will outsourcing allow the credit union to leverage new technologies to improve customer service or does the credit union have unique technology requirements that will be difficult for a third party to process?			
	Platform Reliability	• Can the CU increase uptime or reliability with third party processing?			
	Data Security / Disaster Recovery	• Can outsourcing increase security or time to market improvements over internal resources?			
Strategic	**Competitive Differentiation**	• Which alternative offers the CU the better opportunity to differentiate ATMs from immediate and future competitors?			
	Risk Management	• Does the CU prefer to transfer operating risk to the third party processor, and replace this with vendor management risk?			
	Subject Matter Expertise	• Does outsourcing the processing function buy access to greater breadth and depth of expertise or are internal resources superior for processing requirements?			
	Core Competencies	• Does the CU want to focus more of its managerial time and energy towards member services?			
	Resource Allocation	• Can capital and management attention be best deployed on other areas of the CU?			

Excellent = 100 Average = 75 = 50 = 25 Poor = 0

From a financial perspective, processing benefits from economies-of-scale. That is, the incremental costs of processing transactions decreases as larger volumes are processed on the same platform. By consolidating the resources necessary to process (people, equipment, contracts), significant cost savings can be realized. Alternatively, if a credit union expects high growth, or feels it optimally uses internal resources, the financial analysis can point towards processing in-house.

The operational implications of outsourcing must also be weighed by each manager. In some cases, credit unions benefit from outsourcing due to the dedicated R&D and platform support available from a centralized processor. Some credit unions find value in not having to develop

new technologies internally. Other credit unions might have highly specialized processing requirements or internal development capabilities which allow solutions to be implemented more quickly than might be possible with a processing provider.

Lastly, the strategic implications of the outsourcing decision must be examined by each credit union. For some credit unions, the ability to have management focus on core competencies instead of processing would prove to be a significant benefit. Alternatively, a credit union might not want to surrender control of a primary customer interface and lose the ability to rely on feature/functionality innovation to support future growth.

Each credit union has unique financial, operational, and strategic goals and expectations. Therefore, there is no simple answer as to whether or not credit unions should outsource their ATM networks. Instead, managers must individually evaluate the merits of in-house versus outsourcing options to select the best solution for their credit union. Given competition in the processing and software industries, options for credit unions are more attractive than ever. By employing a structured, thorough analysis of those options, the credit union can take maximum advantage of those options.