

DEPOSIT AUTOMATION



Delivering on the Promise of Lowering Channel Costs by Enhancing the Self Service Deposit Experience

Scope Of Paper

This paper identifies the drivers for self service deposit automation, discusses the technology, and offers suggestions on practical technology applications that can deliver benefits to Financial Institutions and their customers.

Deposit Automation Defined

What is deposit automation? Deposit automation is the utilization of technology to automate the process by which consumers deposit currency and checks at the ATM. The utilization of this technology is dependent upon eliminating the envelope. Deposit automation enhances the consumer deposit experience and provides an opportunity to lower costs by increasing deposit processing efficiencies.

Deposit automation takes many forms depending on geography and prevalence of check and cash usage. In regions with predominant cash usage such as Asia, it is an opportunity to lower service costs by automating self service cash deposits or by recycling the cash deposited and dispensed from the terminal. In countries such as the US with high check usage, regulatory changes commonly known as Check 21 allow check processing efficiencies to be applied across all channels, not just self service. Regardless of the country of operation, deposit automation is an enabling technology that can benefit both Financial Institutions and their customers. >>



We won't rest.

Introduction

The modern ATM was introduced in 1973 and was the first alternative delivery channel. It promised to reduce costs through the migration of routine transactions from the teller line to the ATM. The ATM grew to be the favored channel for cash withdrawals and installations swelled to 1.5 million globally (Diebold Global Marketing). Ultimately, deposits lagged withdrawals and the branch continued to be the favored channel for deposits. Deposit automation offers opportunities to boost self service deposit adoption rates so that cost reductions initially envisioned can now be realized.

While many machines can accept deposits, the practice of encouraging ATM deposits has not received widespread attention. In a global study covering 90% of the market, 30% of installed ATMs were deployed with an envelope depository (RBR: 2004); however, the practice of making deposits at an ATM lags the capability. The branch is still the preferred channel for deposits. In some markets it is estimated that up to 90% of all deposits are made at the teller line.

Differences in deposit rates at the ATM exist among institutions based on their strategy. Indeed, some financial institutions have achieved exemplary deposit rates at ATMs when they have provided educational and motivational programs designed to encourage the desired customer behavior. With deposit automation the promise of deposit migration to an automated channel can be more easily fulfilled. Lowering costs and extending benefits to consumers all hinge upon the ability to eliminate the envelope.

Deposit Automation Drivers

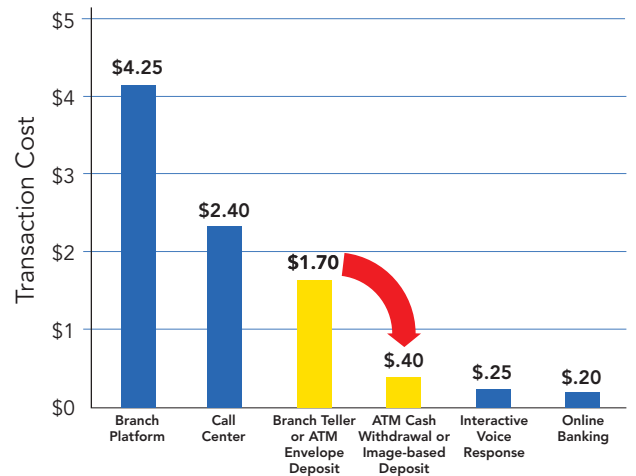
In a global market study on deposit automation (RBR: 2004), financial institutions reported the top three drivers for deploying deposit automation functionality at the ATM as:

- Cost savings
- Branch Strategy
- Customer Service

The following section reviews the drivers and describes how deposit automation can deliver results.

Cost Savings

Cost savings can come in different forms depending on the prevalence of check and cash usage in a given



TowerGroup: Jerry Silva, Research Director, Delivery Channels Retail Bank Delivery Channel Transaction Costs (2006E)

Note that estimates of channel costs vary between research analysts, geographies, and institutions. Most importantly, it appears that an automated deposit can be processed at approximately 25% of the cost of a teller deposit regardless of geography.

Figure 1: ATM Deposit Transaction Costs Decrease with Imaging

country. Countries with high check usage are Australia, Brazil, Canada, France, India, Italy, Portugal, Thailand, South Africa, Spain, Switzerland, United Kingdom and the United States. Institutions in these countries that can truncate checks and transport check images electronically stand to gain additional savings through processing efficiencies and reduced transportation costs.

TowerGroup's estimates for channel costs are shown in Figure 1. Notice that the cost of an envelope deposit at the ATM is estimated to be equal to a deposit made at the teller line at \$1.70. When the envelope deposit is replaced by an automated ATM deposit this cost drops drastically to \$.40, the same cost as an ATM withdrawal. Eliminating the envelope enables automated ATM deposit processing resulting in the estimated \$1.30 savings per transaction.

Factors Contributing to Savings

- Elimination of daily courier pick-ups reduces costs
- Electronic balancing can improve productivity and reduce errors
- Electronic processing allows continuous throughput for more efficient workflows

Institutions in cash intensive countries such as China, Taiwan, Malaysia, and South Africa may also reduce costs by automating cash deposits. These countries experience a large proportion of cash payments. In this

scenario, savings may be achieved through reduced trips to the ATM to sweep deposits. When the envelope is eliminated, cash can be counted and credited directly to the customer's account and the risk of fraud may be mitigated through counterfeit detection measures that attempt to ensure that only legitimate notes are accepted. Deposit sweeps can be coordinated with cash replenishment cycles or held until the cash depository nears full.

In Europe and Asia, financial institutions are deploying cash recycling technology. Cash recycling offers the same benefits as bulk note acceptance and one additional benefit: the ability to re-dispense deposited notes. The business case for true cash recycling requires close alignment of cash deposits to cash withdrawals to reap savings through reduced cash replenishment. Not all financial institutions deploying cash recycling technology are re-dispensing the deposited currency. Diebold utilizes a deposit automation simulator to help Financial Institutions evaluate deposits against withdrawals to determine overall recycling potential.

Cash recyclers can be configured in a variety of ways. It is common for an institution to initially deploy a cash recycler in a "cash in, cash out" mode to gather the data needed to optimally configure the terminal for recycling at a later time. In this form, cassettes are designated as either "dispense" or "deposit" and no true recycling occurs. Another option is to deploy cash recyclers strictly as cash depositories and use the recycler for note sorting. Laws vary by country and recirculation of deposited currency is prohibited by some countries.

Mitigate Risk

The primary reasons that many Financial Institutions have not promoted envelope deposits with their customer base are teller and ATM envelope transaction costs are equal while risks of a fraudulent ATM deposit are higher. Eliminating the envelope mitigates all three types of envelope deposit fraud: closed account, check kiting, and empty envelope fraud. The most substantial type of fraud, empty envelope, accounts for 56% of all ATM deposit fraud and can be eliminated entirely (Figure 2). Eliminating the envelope accelerates processing which can reduce check kiting and closed account schemes. Fraud mitigation is an additional benefit beyond reduced transaction costs.

Intelligent check processing allows financial institutions to apply customized business rules to make decisions

on deposits. For example, pre-defined parameters can be set for tolerance levels between the amount keyed and the amount read by the device. The rationale behind this practice is that it is less costly to make a manual adjustment than to turn away a customer deposit. Business rules can also be used to enforce policies on check acceptance such as flagging or rejecting foreign checks, high value checks, or checks ineligible for truncation due to insufficient image quality. Business rules can be applied to encourage customer adoption and to mitigate risk.

Branch Strategy

Much emphasis has been placed on branch strategy in recent years and deposit automation enables many types of branch transformation initiatives. Historically, financial institutions have had to balance their need to migrate routine transactions to self service terminals to reduce costs against their need to keep their customers in the branch to maintain close relationships needed for more complex sales of higher value products and services. Deploying deposit automation terminals in the branch can solve this problem. Routine transactions can be automated while the branch retains its role as the central contact center.

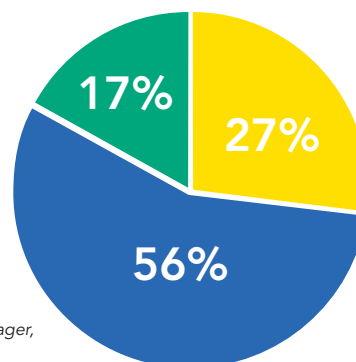
There are many opportunities to automate routine branch transactions. A 2004 Synergistics study on the branch found that most transactions performed in the branch were to conduct routine banking transactions

By removing the envelope and implementing imaging, FI's have the opportunity to:

- Speed processing
- Manage risk
- Eliminate empty envelope fraud

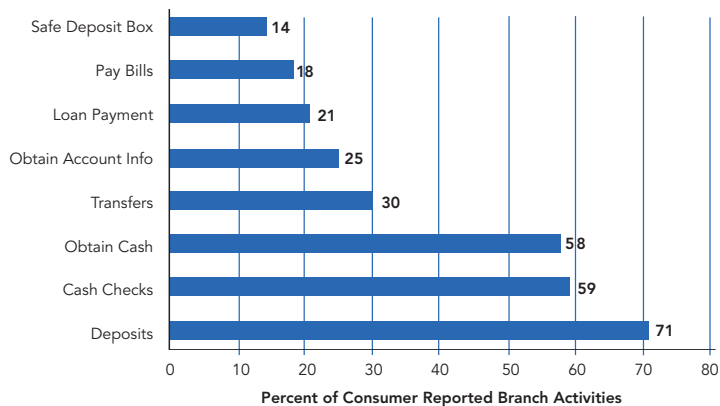
ATM Deposit Fraud Types

- Check Kiting
- Empty Envelope
- Closed Account



Fair Isaac CardAlert Fraud Manager, September 2006 YTD

Figure 2: ATM Deposit Risks Decrease with Imaging



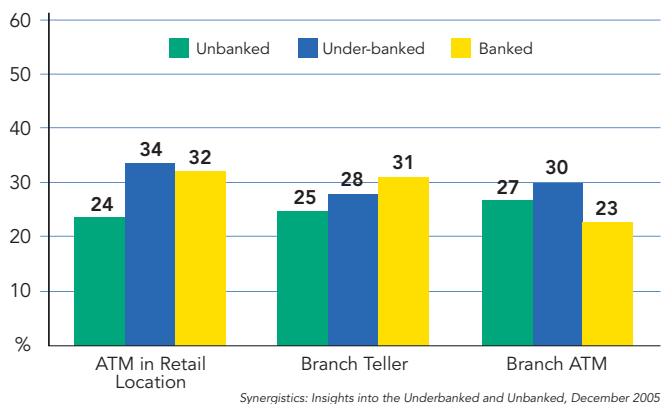
Synergistics: The Evolving Branch, January 2004

Figure 3: Regular Branch Activities

(Figure 3). Consumers reported the top three branch activities as making deposits (71%), cashing checks (59%), and obtaining cash (58%). All of these functions can be performed at a deposit automated terminal.

Financial Institutions participating in the RBR 2004 Global Deposit Automation study anticipated that deposit automation terminals could shift routine transactions from tellers to self-service terminals to achieve migration rates of up to 60 percent. Shifting routine transactions to a deposit automated terminal is dependent on the following enabling factors:

- **Eliminating the envelope.** This allows a detailed receipt complete with check image and note denomination breakdown to be delivered to the customer. The detailed receipt is needed to boost confidence and encourage adoption.
- **Education.** Both staff and customers need to be educated on deposit automation technology. Once the staff is trained, a concierge approach can be



Synergistics: Insights into the Underbanked and Unbanked, December 2005

Figure 4: Channel Preference for Standard Activities – Household income under \$40,000

used to make customers aware that a change has been made and teach them how to use the new technology.

- **Motivation.** Educational programs should be accompanied by the incentives needed to ultimately drive a change in consumer behavior.

There are other ways that deposit automation terminals complement branches strategies. Deposit automation terminals can serve as “mini branches” or extensions of branches to increase market reach. In this role the deposit automation terminal can be used to expand the institution’s geographical footprint to complement acquisition strategies. With deposit automation it is now economically feasible to attract new customers in off-premises locations by extending deposit services. The higher quality deposit experience will increase confidence and encourage more consumers to make withdrawals and deposits at the ATM.

Financial institutions are beginning to consider new ways to profitably deliver banking services to less affluent segments commonly referred to as the under-banked. Segmenting this market by income, Synergistics found that 47% of all households in the US have a household income under \$40,000. Among the under \$40,000 segment, 46% of these households held only a checking or savings account, with the majority – 30% falling in the 18-34 age bracket (Synergistics: 2005). These households have a need to build assets and there is an opportunity to sell this segment more sophisticated products over time.

Self service can play a role delivering services to households with incomes under \$40,000 as shown in Figure 4. The under-banked prefer self service terminals to tellers for routine transactions. The banked (those with more than checking or savings relationship) prefer a teller over a branch ATM but score retail ATMs slightly above teller services. The un-banked (those without any relationship) prefer a branch ATM over a teller. Deposit automation terminals provide an opportunity to serve this segment in multiple ways – at new locations and with expanded services -- but face to face contact is required for initial education and enrollment services.

Customer Service

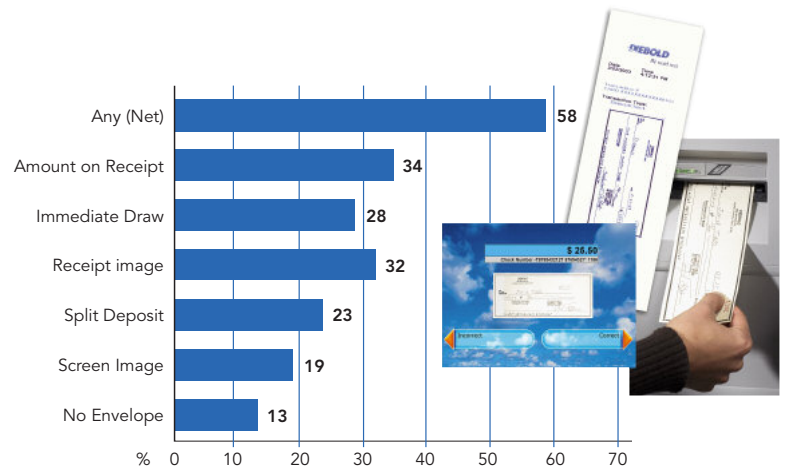
Customer service placed third in importance as a driver of self service deposit automation (RBR: 2004). Financial institutions believe that customer service can be enhanced through improved convenience, availability, and reach and site the following benefits:

- The ability to extend the option of making deposits

outside banking hours to business users and personal customers.

- Provide immediate credit to the account.
- Offer deposit services to non-customers.

The customer benefits shown above were voiced by financial institutions. Consumers spoke out in a 2005 study when 58% of consumers who do not currently make ATM deposits responded positively to one or more deposit automation features listed in Figure 5 below. Amount on receipt, receipt image, and immediate draw scored highest. Consumers were not surveyed on the additional conveniences that can be derived from performing a deposit at another institution's ATM.



Synergetics: Maximizing the Role of ATMs, October 2005

Figure 5: Consumer Response to Deposit Incentives

Technology Solutions

Deposit automated terminals can play a strategic role in financial institution's efforts to reduce costs, support branch strategies, and enhance customer service. Deposit automation can deliver benefits to financial institutions and consumers alike. This section looks at the technology itself and describes how it functions.

Intelligent Depository Module™

- Accepts individual checks without an envelope
- Captures high resolution image of both sides of the check
- Reads courtesy amount without consumer input
- Detects and reads MICR line optically
- Checks for endorsement
- Performs image quality analysis
- Displays check image and courtesy amount on screen for consumer verification
- Holds check in a secure area and returns it if the consumer rejects the transaction
- Prints check image on consumer receipt

Bulk Note Acceptor

- Accepts a stack of mixed-denomination currency without an envelope
- Quickly validates and counts the deposited currency
- Displays deposit details on screen for consumer validation
- Holds cash in a secure area and returns it if the consumer rejects the transaction
- Consumer has option to deposit additional currency
- Deposits currency into a secure container

- Prints itemized deposit details on consumer receipt

ImageWay® Software

ImageWay® ATM Agent

- Collects data and check images associated with each transaction
- Compresses data and images and transmits to central site

ImageWay® Server

- Consolidates data and check images from ATM network
- Optionally balances each transaction to host deposit log
- Formats transaction data and images and transmits to item processing application

Note Recycling

- Accepts a stack of mixed-denomination currency without an envelope
- Quickly validates and counts the deposited currency
- Displays deposit details on screen for consumer validation
- Holds cash in a secure area and returns it if the consumer rejects the transaction
- Consumer has option to deposit additional currency
- Sorts deposited currency into designated cassettes for re-dispense
- Prints itemized deposit details on consumer receipt

Technology Outlook

Deposit automation is in its infancy. Retail Banking Research's 2004 deposit automation study estimates the global market (excluding Japan and South Korea) will reach approximately 50,000 deposit automated terminals by year-end 2006. By 2014 the market is expected to grow to between 175,000 to 300,000

terminals (Figure 6). This forecast includes all types of deposit automation – check and note acceptance as well as cash recycling. The forecast also includes two types of terminals – those that accept deposits and dispense cash as well as stand-alone deposit terminals. Three countries – China, Brazil and the USA – are expected to account for 60% of the total market size by 2014.

Summary

Diebold anticipates a fundamental change in the way financial institutions and their customers will view and use the self service channel. New technologies, and the enhanced utilization of existing technologies driven by the passage of the Check Truncation Act, will power the increased utilization and effectiveness of the self service infrastructure. The ability to accept bulk note deposits and to image checks will have a dramatic impact on the cost structure and performance of the self service channel. As the nature of deposit taking changes so will the nature of the branch as more routine deposits are absorbed by the self service delivery channel.

Diebold is well positioned to assist financial institutions in the migration to deposit automation. The Opteva™ family of ATMs powered by Agilis™ open software applications provides unique solutions that can deliver on the promise of transaction migrations and improved operating costs.

As technology continues to advance and consumer acceptance grows, there will be additional opportunities for the self service channel to deliver expanded services. Deposit automation is a significant step forward in this evolutionary process.

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