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CHAPTER 6

COLLECTION ACTIVITIES: THE MANAGEMENT OF CASH

PUT MONEY IN THY PURSE.

William Shakespeare (1564 - 1616)

CHECK ENCLOSED.

Dorothy Parker (1893 - 1967), on her version of the two most beautiful words in the English language.

Collection activities include the various flows representing the receipt of cash for the sale of product or service. Unlike disbursements--driven primarily by accounts payable and payroll--there can be several sources of inflows, each with its own collection mechanisms and information systems. This chapter discusses reengineering opportunities for collection flows, from financial activities in support of sales through the completion of the collection timeline--the banking of monies received. The reason for reengineering these activities is to reduce float and internal and bank/vendor costs, and to generally make the process more efficient. *Float* is a concept used to refer to any funds being moved to or from a business. Various kinds of collection float, discussed in this chapter, include post office float, processing float, mail float and

availability float. Float also appears in the chapters on concentration and disbursement (Chapters 7 and 8).

Sales Financing

An important sales function is assisting customers in arranging the financing for their purchases. Industries as varied as automobiles and office equipment require financing assistance and analysis because customers are often unable to make a large cash outlay for the purchase amount. In these situations, sales financing programs--more than pricing or product features--can determine success or failure in making the sale. (An illustration of a sales financing process was provided in Chapter 5, in the discussion of "floor planning" in the automobile industry).

Treasury managers are involved in sales financing in the development of pricing models based on timing of payment, anticipated fees (such as late payment fees), the cost of seller rebates, and the spread earned on finance charges over the cost of capital. In addition to the usual treasury and receivables functions, an in-house program requires the special skills of a credit group to analyze proposed transactions, and of lawyers to prepare contracts and regulatory agency filings. Transaction specifics include the credit terms and interest charges offered to customers (depending on creditworthiness, asset life and industry experience with credit) and collection activities against overdues.

Although maintaining the overhead of an internal sales financing program can be a significant expense, a major benefit is the ability to directly control response time and "deal" particulars for each transaction considered. Certain customers may be especially desirable given their business potential or cache, justifying a coordinated sales financing effort. Other customers

may be repeat business and the level of effort may be less demanding.

The sales financing process can be outsourced to a finance company or other lender in three possible formats:

- full recourse sales financing (allowing lowest interest rates), with the lender becoming the source of funds and offering advise on customer creditworthiness;
- limited liability or ultimate-net-loss, allowing a limitation on the extent of the recourse, with the seller and lender each absorbing some credit risk;
- no risk, with the lender independently determining the creditworthiness of the customer.

When lenders assume some or all of the risk, approvals can be delayed up to a few weeks, depending on the information provided by the customer and on his or her credit rating.

While an outsourcing program avoids certain credit group and legal overhead, customer service could be adversely affected. Certain lenders focus on transaction activity, and may not understand the importance of service to the customers of the selling company. Problems might arise when questions are directed to the lender regarding such matters as the mechanics and crediting of payments.

Invoice Generation

The process of invoice generation is often a shared responsibility of sales, receivables (credit), and systems, with critical decisions on the design and timing of the invoice cycle made at the convenience of systems managers. Frequently, invoice runs are inserted when time is

available in the mainframe processing cycle, without regard to the optimal timing of the printing/ mailing process. Some financial managers are working with the appropriate corporate organizational units to improve on these results by improving invoice design and the timing of the preparation of the invoice.

Improved Invoice Design. Simplifying and streamlining the invoice eliminates superfluous information and multiple addresses. The invoice should be easy to read and to pay, with a clean look. A single return address forces the remitter to mail payments to the intended address rather than to an address which may delay processing. (One client had four addresses on each bill--the home office, the regional office, the office of the sales rep, and the lockbox address! Little wonder that many items were misdirected to the wrong location.)

Invoice design may involve developing formats readable by automated equipment, including those in MICR and OCR fonts. **MICR** (magnetic ink character recognition) and **OCR** (optical character recognition) are fonts or print characters which have a distinctive design recognizable by reader-sorter equipment. MICR and OCR characters are printed in special ink at designated positions on checks and remittance documents, usually at the bottom of the print page.

Timing of the Invoice. We noted in Chapter 2 that substantial research has been conducted over the past decade examining alternative invoice mailing dates and the resulting

payment "receive" date for both corporate and retail payments. For most industries, the optimal time for the customer to receive his or her monthly statement is 25 days prior to the due date for receipt of funds by the date due. Yet many companies are invoicing 10 to 15 days later than optimal, with the result that their DSO (days sales outstanding) is longer than average for their industry. Equivalent relationships hold for industries billing on cycles other than monthly.

Invoicing Case: Steel Manufacturing Company

A steel manufacturing company bills \$250 million per year through mailed invoices prepared through three information systems. Billing terms are "net 30," that is, payments are considered late if received more than 30 days after the invoice is received by the customer. Consistent with industry practice, no cash discounts are offered.

Weekly system runs print invoices an average of 20 days after the sale date. The due date for payment is 30 days after the target date for the customer to receive the invoice (the "customer invoice receive date"). Given typical mail times in the geographic areas served by the company, customers receive these invoices approximately 17 days prior to the due date. The timeline sequence for a typical transaction involving these events is as follows:

Sale of product:	February 1
Target issuance of invoice:	As soon as possible after February 1, assume February 5

Target customer receipt of invoice:	February 8
Actual issuance of invoice:	February 20
Actual customer receipt of invoice:	February 23
Target due date:	March 8
Actual due date:	March 23

The slippage or float lost between the target and actual due dates is 15 days. The value of the lost days, at an assumed 10% cost of capital, is calculated as $\$250 \text{ million} \div 365 \text{ calendar days} \times 15 \text{ lost days} \times 10\% \text{ cost of capital} = \1.03 million . Research by the consultants determined that the delay in invoicing was caused primarily by various scheduling issues within information systems, with invoicing cycles run at certain weekly intervals at the convenience of the systems department.

Once senior management of the steel company became aware of the potential value of the lost float-- in excess of \$1 million a year--it was a relatively simple matter to convince the systems department to re-schedule their processing runs. While some customers did notice the change in the timing of their monthly invoices and held checks until the usual release date, many paid once the bill was approved (see discussion, Chapter 8). The realized annual savings exceeded \$500,000!

Practices in Cash Collections

In the earliest form of collections processing, payments were directed to an organization's offices, where mail would be delivered mid-morning by the post office, opened, checks pulled and prepared for deposit, and a run to the bank made sometime in the middle of the day. Companies today often continue to process internally because of special handling requirements or very high volumes (usually in excess of 250,000 items per month).

Problems with this procedure include the following:

- # *Post Office Float*. Mail can sit in the main post office or in a branch for several hours, causing the delivery to be one or two days later than if the mail were picked up by the addressee. This occurs primarily in older, East Coast post offices, and in those situations where several sorts are necessary to assign mail to specific delivery routes. Such sorts may involve main city zip codes, street addresses and post office boxes.
- # *Collection Float*. Collection float is comprised of *mail float* and *availability float*.
Mail float is the time during which letters are in the mail delivery system. It is reduced by having all mail directed to the main mail facility in each city. This avoids secondary mail sorts and the delay of postal carrier delivery by arranging pick-ups as soon as the first sort is completed. Mail can be received by the lockbox as early as 5:00 to 6:00 a.m, with opening and processing shortly thereafter, allowing checks to be deposited long before the close of that day's ledger credit.
Availability float is the interval from the depositing of a check to the time the bank considers the funds cleared or "available". The banking system customarily assigns zero,

one or two day availability to all checks deposited which have been drawn on U.S. commercial banks. Checks drawn on savings banks, savings and loan associations, credit unions and banks outside of the U.S. can take considerably longer to clear. Specific clearing times are determined by each bank, and usually reflect approximately what the bank expects to receive in availability as it clears checks deposited.

The total of mail and availability days, or collection time, can be minimized by careful selection of the receiving destination. Certain cities have very fast collection times and are preferable to cities with longer times. Items processed internally by a company may not be at the best sites for the management of float.

Processing Float. Processing float refers to processing time within the company office.

Processing float is the time interval from the receipt of mailed checks to the time of deposit. Bank lockboxes minimize such time by using dedicated processes to open envelopes, pull and copy checks, prepare deposit tickets, and enter the deposit into remittance processing.

Because mail may not be delivered until mid- to late morning, the deposit of checks received may occur after the close of ledger credit at the bank. This often occurs at branch banks, which must close early in order for the bank's courier to pick-up checks for processing at the main facility. A branch may "close" at 2 p.m., while the main bank could be open until 5 p.m. or later. While convenient to the depositor, accounts at a bank branch may have a negative impact on processing float.

- # *Control Issues.* Checks processed through the offices of a company may be stolen and cashed by employees. While customers would eventually complain about not receiving credit for payments made, months may pass while the thefts continue to occur. (See Chapter 10 for a more complete discussion of this issue).
- # *Deposit Bank Issues.* Companies often choose their depository banks on the basis of convenience or because of credit relationship. The depository bank may be in the same area as the processing facility, or it may offer mortgages at preferred rates to company officers, or it may put an ATM machine in the building and offer employees free checking. While all of these matters are important, the selection of a depository bank should be based on fees charged and the availability granted.

Our consulting work has discovered situations where fees varied among candidate depository banks by 5¢/item, or \$5,000/month if 100,000 items were being deposited. Furthermore, variations in availability can be as much as 3th day. Finally, time for ledger cut-off varies considerably, depending on the location of the bank's processing center. If the processing center is distant, the deposit may have to be made by 2 p.m. for same-day credit, as the bank's courier must then transport the deposited checks to that site.

Internal Improvements and Outsourcing in Collections Reengineering

There are few opportunities to improve internal collection practices. Unless the company processes in excess of 250,000 items per month, most authorities agree that outsourcing

(lockboxing) will always be the most efficient decision.

The biggest internal savings can be made by having a lockbox system handle office receipts and other such items. Also, careful analysis of deposit bank alternatives should be made, including eliminating redundant local depository accounts. Other internal improvement opportunities include reducing processing float, banking any monies received prior to the bank's close of business each day for deposit (ledger) credit, improving invoice design and timing, and converting from paper to electronic processing whenever possible.

The discussion which follows pertains to outsourcing strategies.

WHOLESALE LOCKBOX

The original form of cashflow reengineering through outsourcing was the lockbox, created shortly after the Second World War. The standard lockbox product was established to circumvent the delays inherent in office processing and to reduce opportunities for theft. In its simplest form, the wholesale lockbox, a company asks its customers to send their payments to a Post Office box. That box is monitored by the company's lockbox bank. The bank picks up the mail, brings it back to the processing center and deposits the items into the company's account. The bank then notifies the company of the deposit totals and sends or transmits the payment detail information directly to the company.

Lockboxes improve availability management by processing at night in order to make the critical deposit times for credit (usually the early morning hours), and by locating in cities which experience aggressive check clearing activity. As an example, Chicago is generally considered an

aggressive lockbox location; Wichita is not. A company would therefore be wise to direct payments to a bank lockbox in Chicago rather than Wichita.

Beginning in the 1970's, banks and consultants began to develop analytical models to determine the optimum sites for the location of lockboxes. These models require data on standard mail times, bank availability, and the monthly pattern of checks sent to the company from various sending locations ("send points"). The data are analyzed to determine the optimal locations for lockboxes based on minimizing total collection time.

Wholesale lockbox networks offer multiple collection sites through a single bank or vendor contact, overcoming the current prohibitions against interstate banking (as originally established in the McFadden Act of 1927).¹ The network approach uses sites in key collection cities, with mail received, processed and deposited to local banks. The primary advantage is the relationship with a single bank for multiple-site lockboxing; the disadvantage is slightly worse availability than would be achieved using different banks.

Wholesale Lockbox Case: Heavy Equipment Manufacturing Company

A heavy equipment manufacturing company had been utilizing a wholesale lockbox system since the mid-1980s for accounts receivable payments. The system involved three bank wholesale lockboxes, located in the Southeast, the Southwest and the West Coast. Due to

¹While various changes to branch banking limitations have been allowed, full interstate banking will not occur until 1997. Such changes include banking across state lines where the states agree (the interstate compact), situations involving distressed banks, and banks "grandfathered", that is, engaged in interstate banking prior to the passage of McFadden.

variations in product distribution patterns and competitive pressures, various changes had occurred in its customer base, with an increase in Southwest activity but reduced business from both Coasts.

A collection float study was undertaken to analyze the current wholesale lockbox system and evaluate alternative configurations for improved performance and/or reduced cost. The study was based on data from checks received at the company's current lockboxes, analyzed by a lockbox model. A 30 day period beginning November 1, 199X was used to represent typical customer activity.

Table 6-1 summarizes the sampled dollar volumes and item counts used for the analysis. All items under \$5,000 were excluded as immaterial to the results, as were all items not meeting various edits within the model. These edits included missing data such as zip codes, illogical data such as checks mailed after the receive date, and checks too long in the mail (in excess of 45 days). This resulted in the capture of some 74% of the dollars, representing 8% of the items.

Table 6-1: Current Lockbox System Volumes

Lockbox Site/Bank	\$000	Items	Average \$ per Item
Southwest Bank	\$ 34,260	5,476	\$ 6,256
Southeast Bank	\$ 7,928	4,194	\$ 1,890
West Coast Bank	\$ 3,518	1,986	\$ 1,771
SAMPLE TOTAL	\$ 45,707	11,656	\$ 3,921
STUDIED ITEMS TOTAL	\$ 33,766	884	\$ 38,197

The average collection time for the current system was found to be 3.44 calendar days. The disparity between this observed time and the time of a re-directed system was significant, about one-fifth of a day. A re-directed system involved changing the wholesale lockbox addresses for customers to the appropriate location as assigned by the model, and by aggressively attacking items now deliberately mis-directed by customers to the wrong lockbox.

This indicated that an opportunity existed to save more than \$25,000/year in float (calculated as \$240,000 at a 10% cost of capital + in excess of \$2,000/year for those items excluded by the analysis). The company could aggressively re-assign or re-direct remittances to the most

appropriate lockbox by notifying its customers of the correct address for receipts, reducing collection time to 3.24 days.

The company's geographic distribution of customers indicated that the largest concentration (based on dollars) is in the Southwest (including Southern California), and selected states in other areas. See Table 6-2 for data by sending location.

Table 6-2: Geographic Distribution of Send Points to Lockboxes
(for states greater than 2% of studied remittance dollars)

Send Point	% of \$ Sent
Texas	37.2%
California	18.6%
Nevada	13.9%
Missouri	8.7%
Arizona	6.6%
Oklahoma	2.2%

This concentration in a broad geographic region, along with the very large dollar amounts (the average check studied was over \$38,000), made it clear that while elimination of the two low

volume lockboxes would not significantly affect collection time (estimated by the model at 3.30 days), the expenses of the current three lockbox system would be reduced, and there would only be one lockbox relationship to manage.

RETAIL LOCKBOX

A retail lockbox operates similar to the wholesale lockbox, with the added feature of being able to process MICR or scanline characters printed at the bottom of the remittance document (usually the invoice) and the check. This makes processing faster and cheaper and reduces data entry errors caused by keying mistakes. Insurance premiums, credit card remittances and utility bills can use retail lockbox processing because the payment usually matches the billed amount. Because most retail lockboxes involve these types of small dollar payments, float is typically not an issue.

The demand for retail lockboxing remains relatively strong as companies redesign billing systems and invoices to accommodate standard payment amounts. Furthermore, MICR technology now permits several data fields to be printed, including alternative payment amounts (such as the minimum acceptable amount, the total due, and various other choices) and data references (such as the account number, the invoice number, etc.). Businesses prefer retail processing due to the significantly lower cost than wholesale processing (about one-fourth the cost on a per item basis), the lower error rate, and the ability of the bank or vendor to provide a daily transmission of the processed data file, including all MICR and check data.

Banks and vendors have been exiting this cash management service, however, primarily due

to very low profit margins. There are fewer than ten reliable retail lockbox services from which to choose, while wholesale lockbox services are very widely offered. Businesses with monthly retail volumes in excess of 250,000 items should consider purchasing or leasing the necessary equipment for internal processing. It is usually cost effective to outsource to a bank or vendor only when volume is below that amount.

IMAGE CAPTURE LOCKBOX TECHNOLOGIES

The lockbox systems described thus far provide traditional processing, with remittance data either keyed (if wholesale) or scanned (if retail) into a file for the cash deposit. Newer systems use receivables matching and imaging technologies to update accounts receivable files of cash received.

Receivables matching involves periodic (usually daily) transmission of the accounts receivable file to the lockbox in a standard format. As cash is received in payment of open invoices, receivables are matched against each payment based on unique identifiers, such as account, order or transaction numbers. When an identifier is matched with an amount paid, the receivable is considered cleared. If a match does not occur, additional invoice data is keyed to attempt a match. Unmatched items are sent to the company for resolution.

Benefits of this product include fewer errors due to keying mis-strokes, faster collections updating to expedite the credit and collection process, and access to a totally automated accounts receivable environment within the bank or vendor. An inefficient accounts receivable internal process will certainly not be improved by use of receivables matching, however. Therefore a

thorough review of current procedures is necessary prior to implementation, including document design, structure of the receivables file and exception processing (where no match occurs).

Imaging involves an electronic picture of the check received and the remittance document, which can then be archived, retrieved and transmitted to the company. Based on a template of every type of remittance document received, characters can then be recognized for conversion to electronic data for application to receivables. This technology can also be used to expedite exception processing. The exception is imaged and transmitted to the company, which researches the item, and returns it for the completion of the receivables updating. Exception imaging saves days in cycle time, worth considerable float to large companies receiving many items without remittance documents.

Due to the substantial costs of the technology, receivables matching and imaging has not been widely used. Imaging is considerably more costly than standard lockbox processing, but the value in time saved and the elimination of internal processing costs may make these applications more appealing to certain companies. Furthermore, imaging permits paper invoicing and checks to continue to flow between organizations and their customers, with the conversion of that paper to an electronic image once it reaches the processor.

ELECTRONIC COLLECTION PRODUCTS

Electronic collection products include ACH pre-authorized consumer debits, used for insurance premiums, mortgage payments and other collection cycles involving fixed amounts, and EDI, for corporate trade payments. Both of these products were introduced in Chapter 5.

Their primary advantage is the elimination of paper and the associated costs and time delays. Other benefits include enhanced relationships between the trading partners (primarily with EDI) and the certainty of the dates of payment. Costs include establishing the electronic transaction systems, and the potential loss of float due to the next-day transfer of funds.

Despite several years of promotion by the banks and vendors, the volume attributable to ACH and EDI is minuscule, and not likely to grow substantially given the current bias of customers to pay by check. There are various reasons for this situation, including refusal of customers to yield control over access to their funds and concern that a debit will be for a charge in dispute. Successful applications of ACH have come at some expense to either the buyer or the seller. For example, insurance premiums are often paid by ACH debit because insurance companies either refuse to collect monthly premiums by check or charge a hefty surcharge for the privilege, often 1-2% above the annual premium amount. Mortgages are paid by ACH either because borrowers receive a lower interest rate, often 1/4%, or because it is a condition of the loan.

Banks are offering EDI collection products which allow customers to receive a single electronic payment for all invoices being paid, supported by remittance advices in EDI standard formats. EDI volumes have been trivial for corporate collections, however, primarily because companies want to control the date of release of payments and want a paper audit trail should a dispute occur. ACH and EDI will be revisited in Chapter 8.

Other types of electronic collections include POS (point-of-sale) terminal data transfer for credit and debit card consumer purchases, FedWire transfers for same-day final payments (customary in certain industries, such as the securities and real estate industries), and net

settlement systems. Net settlement is used in the airline industry, and involves netting purchases and sales with a transfer only of the net amount owed.

Cost Analysis of Internal Processing and Outsourcing

Outsourcing through the use of traditional lockboxing generally costs about 15¢/item for retail processing and about 60¢/item for wholesale processing. These costs are exclusive of the cost of maintaining the account, data transmission and exception processing. Reliable estimates of equivalent costs for internal processing vary depending on the efficiency of the process and on the volumes handled. Experience is too limited to cite retail internal cost experience for volumes under 250,000/month; nearly all these companies use bank or vendor lockboxes.

Internal processing of wholesale items will often cost \$1 - \$2, and will always suffer from poorer mail and availability times than a bank lockbox. A company will miss the morning deposit cut-off times available in a bank, and many companies don't operate in cities providing the fastest collection times. Furthermore, placing collections in a lockbox avoids the possibility of the theft of incoming cash by an employee. For all of these reasons, it is unusual for internal processing to be a better choice for a company than some form of lockboxing.

Cashflow reengineering opportunities are fairly limited in traditional wholesale lockboxing, given the maturity of the concept (now five decades old) and its widespread acceptance. Companies not now lockboxing, particularly those in the so-called small and medium-size range (under perhaps \$100 million in annual sales), can have access to the product through community

and regional banks. Major reengineering opportunities remain in invoice design and timing, conversion to retail lockbox processing, and the outsourcing of receivables processing.