

6.1: How is the cash collection cycle reported?

Learning Objectives

After students complete this section they will be able to:

- Relate the cash collection cycle of a business to the accounting equation, internal controls, accounting standards and uncertainty presented in earlier chapters
- Explain the allowance method for estimating uncollectible accounts

Question: What is so important about the cash collection cycle for a business?

Cash is the life-blood of any operating business or organization. Without cash, a business cannot pay employees or pay for other items needed in the business. Business can come to a stand still when cash is scarce or non-existent. In today's business world, most cash is no longer in the form of currency like 20 dollar bills or even written checks. Cash exists as electronic numbers in bank accounts that can be easily accessed using a variety of electronic payment forms. From 2014 to 2022, the number of checks processed in the United States went from 5.7 billion down to 3.3 billion while electronic forms of payment of all sorts increased from 104 billion transactions to 193 billion transactions. Businesses today operate in a primarily an electronic payment system but that does not make this electronic money any less important to the success of the business. Whatever form it takes, cash is key to continued operation and the ability to generate cash is key to a successful business.

Question: So would a business want to maximize the amount of cash it has whether as currency or electronic cash in the bank?

Business obtain assets in order to generate revenues which result in more assets. Here is the dilemma, while cash is an asset and a necessary one for paying bills and employees, it is not very useful in generating revenues. If a business has a pile of money (in a safe or in an online bank account) it will generate very little additional revenue. There may be some interest on the bank account but certainly not enough to justify keeping large amounts of cash in that bank account. Investors would not be very pleased to see this idle cash not being used to earn revenues and profits. If investors buy stock in a company and all that company does is take the money collected and put it in a bank account – then the investor could have done that on their own without stock ownership. Investors may want the company to have enough cash to pay dividends but they are not interested in piles of it going unused. Thus, businesses exchange at least some of their cash for more useful assets and expenses – those that are used to generate revenues – like equipment, buildings, wages and electricity.

If you thinking there must be a balance between having too much cash and having too little, you are absolutely correct. The term we use in accounting and business to describe this balance is **liquidity**. A business that has more than enough cash or can obtain that cash quickly is referred to as having high liquidity. A business that has less than enough cash is referred to as having low liquidity. Businesses try to have enough liquidity that they can respond to opportunities or challenges but not too much so that they are not generating the revenues and profits needed to reward investors. An example of this kind of decision – a company has the opportunity to purchase some new and improved equipment (will help them generate even more revenues than the existing equipment). They have cash in the bank that would allow them to pay for it because they have pretty high liquidity. If they exchange the cash for the equipment that will reduce liquidity right now but generate greater revenues going forward. If a crisis came up (or an even better opportunity) the cash may not be available because they spent it on the equipment. They could sell the equipment perhaps in an emergency but that would not be as easy as just getting the money from the bank account (the equipment is less liquid than cash).

Question: How does this concept of liquidity affect financial reporting?

In the structure of the balance sheet, liquidity influences how much of it is reported. The whole idea of current assets versus long term assets is related to liquidity. Current assets that provide benefit in the next year are separated because they are more liquid (more easily turned into cash) than long term assets. Current liabilities are going to require liquidity (cash to pay them) over the next year as opposed to long term liabilities where liquidity needs are further in the future. Typically cash is listed first as a current asset because it is the most liquid and further current assets are listed in the order in which they could be turned into cash on the balance sheet. Of course the cash flow statement is entirely concerned with where cash comes from for the business and what it is used for. It is the story of a company's liquidity situation over the course of an accounting period.

Question: More transactions involve cash than any other financial statement element and it is important in reporting as mentioned above. How do we know how much we have?

In chapter 4, we discussed internal controls and how they are designed to protect assets and ensure that financial information is reported correctly. The process involves a risk assessment to identify where our company is at most risk from mistakes and fraud. In most risk assessments with regard to assets and transactions, cash poses perhaps the largest risk. The sheer number of transactions and chances for mistakes makes it vulnerable. In addition, the idea that if any asset is going to be stolen by dishonest participants, it would be cash, makes the risk of loss high. If someone steals any other asset, they must convert it into cash to be able to spend it – this makes cash the favorite target of thieves.

Businesses then must be extra careful to establish internal control procedures that will ensure that cash is safeguarded and transactions are properly recorded. Since cash has become more electronic, the preferred control procedures should address this reality. Two signatures on paper checks is not effective when checks are not being used and has been replaced by controls like two factor authentication online (password and text to phone verification for example). Careful maintenance of strong passwords, review of exceptions and the assignment of duties to require large transactions to have a second sign-off help keep electronic cash secure. In retail establishments, cash transactions are handled by sophisticated computers which separate the cash and credit card record keeping from any handling of the physical cash. Many now do not even require an employee at the register so there is actually such separation of duties that a person is not even able to steal the cash or card information (because no one other than the customer even handles it). The overarching control on these transactions is the process of reconciliation where the business compares their records of transactions (deposits, cash transfers, etc.) with records kept by the bank or other financial institution. While this may be done using computers and even artificial intelligence instead of paper and pencil it still must be carefully thought through and implemented. Reconciliation is an effective deterrent to fraudulent transactions only if the individual overseeing the reconciliation is not also the person overseeing the actual recording of the transactions to be reconciled.

Check Yourself

Arneldo has a company credit card to facilitate small purchases and travel costs necessary in his role in his company. Each month, Arneldo is required to submit a record of the transactions he paid for from the card. This record is compared against the financial institution's statement sent directly to the company. For this to be an effective reconciliation internal control procedure, who should not complete this comparison?

- A. Arneldo
- B. Arneldo's supervisor
- C. Accounts payable clerk
- D. Controller

A is the answer. As long as the individual is properly trained as to the process, the only person who cannot complete the reconciliation is the one responsible for the transactions and still have the control procedure to be effective. Arneldo could always review his records and catch errors but as effective control that would help an observer trust the outcome, the reconciliation should be done by a separate individual or be completely automated.

Question: If cash is so important and we spend so much time tracking it, how does a company generate more of it?

While a business can borrow money from banks or sell stock to shareholders to get cash that can be used in the business, these sources are generally severely limited unless the business can show the ability to generate cash by selling goods or services to customers. The company must obtain goods (inventory) that customers want to pay for or hire employees or contractors whose services customers are willing to pay for. This obtaining of things to sell, convincing customers to agree to buy (revenue recognition) and then collecting cash from those customers is called the cash conversion cycle and is the primary way a business obtains cash. Obtaining goods or services from suppliers and employees requires cash and thus you start and end with cash (more than you started with) which is why it is referred to as a cycle but in truth it never really has a start and an end just like a wheel does not have a start and an end.

We want to focus on the step between convincing customers to buy a product and service and collecting cash in our bank account for our next illustration of our use of the accounting equation. For many businesses, a customer buying a product and paying for it is combined into one step. Retail stores, physical and online, sell products and collect the money at the same time. Customers pay with physical cash or using a debit card, credit card or other electronic payment system (i.e. Apple Pay). When the customer swipes their card or waves their phone money is transferred from their bank account to the account of the seller. With a credit card, the bank that issued the credit card provides the customer a loan so that the money can be transferred to the account of the seller. In all of these methods of payment, the seller has an increase in cash in their account. Signatures, PIN's and careful tracking provides

security over these transactions for both the buyer and seller. For most of the electronic payment forms, some sort of fee is charged by the company that processes the transaction. This means the seller does not get all of the cash that the customer is willing to pay. So when you swipe your major credit card for a \$100 purchase, Target or some other retailer will receive about \$98 with the other \$2 going to pay the credit card company and bank involved in making the loan for their service. When a major credit card (Visa, MasterCard, Discover, American Express) is used by a customer to make a purchase at Walmart, Walmart accounts for it just like a cash sale because Walmart gets the cash right away (due to the loan provided by the credit card company/bank).

Question: Why would a company accept only \$98 when the customer was willing to pay \$100?

Retail companies are willing to accept credit card payments even though it costs them, because they believe that the convenience that customers enjoy by getting an instantaneous loan will allow them to purchase more and thus increase revenues. A little less cash now to generate more revenues – seems like the trade off in liquidity discussed earlier. Some retail companies have started their own credit cards to avoid paying these fees. Then the retail company has to track all the transactions, send bills to customers and follow up with collecting the cash later. Most retail businesses have decided avoiding all of these issues and getting their cash right now is worth whatever fees the banks and credit card companies charge.

Companies that sell goods and services not to a retail customer but rather to another business (referred to as B2B) have found another way to make it convenient for their customers and not pay the fees the credit card companies charge. To increase revenues, they allow their customers to buy today on credit and pay later. This helps customers in two ways – they do not have to have the liquidity today that would allow them to pay for it and they can make one payment for a whole list of purchases over time rather than lots of small payments each time a purchase is made. This works so much better for B2B sellers who have hundreds of customers to track than it does for retailers with millions. If you think about it, the seller is actually providing a loan to the customer at the sale that allows the customer to obtain goods or services now and pay later. Because the seller has provided the goods or services, revenue can be recognized and recorded but instead of cash the seller records accounts receivable (going to receive cash in the future). By the way the buyer records an accounts payable but we will save that discussion for another time.

For those that sell on credit, they have to track all the sales individually by customer typically using an computerized accounting software designed for this function. They then have to follow up with each customer to collect cash payment when it is due. Generally, these sellers establish common terms for all customers like all amounts are due in 30 or 60 days. Imagine a long list of customers with each showing the amount the customer has purchased and not yet paid for. A total of this list of customers would be equal to the amount the company would show on their balance sheet. So a sale to customer A on credit would both increase how much customer A owes on the list as well as increase the total of the list (shown on the balance sheet). When customer A makes a payment it would both reduce the amount owed by customer A and reduce the total of the list (accounts receivable on the balance sheet).

ASSETS =			LIABILITIES		+	STOCKHOLDERS EQUITY			
CURRENT			CURRENT	LONG TERM	CAPITAL STOCK	+ RETAINED EARNINGS			
Cash	Accounts Receivable	Inventory				Revenue	– Cost of Goods Sold	– Expenses	– Dividends
Increase 98		Decrease 45				Increase 98	Increase 45		
	Increase 100	Decrease 45				Increase 100	Increase 45		
Increase 100	Decrease 100								

The first transaction illustrated above is the sale of an item that the customer paid \$100 for using a major credit card with a 2% fee. The item sold originally cost \$45. The second transaction is selling that same item to a customer on credit. When the credit customer makes a payment the last transaction would be recorded (maybe in a later accounting period). What is not easily shown in this format is that the changes to accounts receivable affect not only the total accounts receivable but also the individual customer's account.

Question: What are the risks of selling to customers on credit?

As mentioned earlier for retailers who set up their own credit cards, any business that sells something today and expects payment later is taking on all of the costs of tracking the detailed information about that customer so that collection can be done. Without some form of reminder (paper or electronic), customers will typically not pay the amounts they owe or at least will not do so very quickly. Having an efficient system to track which customers bought what and when and making sure that information is correctly communicated when requesting payment helps to reduce the risk of unhappy customers and non payment. Businesses are also concerned about the risk that customers who they sell to on credit will not pay on time or maybe not pay at all. To address this risk, companies set up internal control procedures that involve checking the history of potential customers to see if they have paid their bills on time in the past and setting appropriate terms for granting credit. Terms typically spell out when an amount a customer owes is due and may involve penalties for paying late and discounts for paying early. The terms may even vary based on the history of the company – one customer may be offered 60 days to pay for their purchases while another only 30 days because they do not have strong history of payment (the longer the terms are the less likely the customer will pay). Other customers we may refuse to sell on credit or only sell a few items at a time (low credit limit). All of this to lower the risk that customers will not pay without causing them to take their business to your competition because your credit policies are too strict.

Question: How is the risk of non payment for credit sales accounted for in the accounting equation?

To understand the application of GAAP to accounts receivable, we need to go back to our earlier discussion about uncertainty. We also need to remember that any company's accounts receivable balance on the balance sheet represents the total of a whole long list of customers and how much they owe our business at a particular point in time. For companies who sell much of their product on credit, accounts receivable can be a significant amount on the balance sheet. Investors want and GAAP requires that the amount on the balance sheet must be reported at net realizable value. That means a business reports what they expect to actually collect from customers. So Eli Lilly, a U.S. drug manufacturer, reported on its balance sheet dated December 31, 2022 accounts receivable (net) was \$6,896 million. This means that Eli has a huge list of customers and the amount that they owe and Eli expects to receive as of December 31 is almost \$6.9 billion. GAAP and Eli realizes that despite their efforts to check into the background of customers and to set appropriate terms for them, a few of them will end up not paying. An estimate of this amount has already been subtracted from the total amount customers owe and the remaining amount is put on the balance sheet (the term Net indicates that the estimate of uncollectible accounts has been subtracted). As an explanation on the balance sheet, Eli states that as of December 31, 2022 they estimated that \$16 million of the amounts customers owed will not be received.

Key Term Usage

The term "Net" in accounting means something has been subtracted. Hence net income has expenses subtracted, net receivables has the estimate of uncollectible accounts subtracted.

Question: Why would Eli Lilly sell to a customer who they thought would not pay them?

The answer is they wouldn't sell to that customer on credit. When they made the sale, they had researched the customer and found they were credit worthy. However things change between the time sales are made and when it is time to collect and those changes can impact the ability of the customer to pay. Therefore, accounting rules require that a company like Eli look at all those changes plus considering past history of customers in general not paying (remember the list of customers is probably in the thousands) to determine an estimate of how much they will not collect. This estimated dollar amount is referred to in accounting as an allowance for uncollectible accounts or allowance for bad debts or when we want to be short about it just **allowance**. Typically this is listed as a separate account on the chart of accounts and in our accounting equation worksheet. Now consider when Eli has a customer that has not paid the amount owed. Eli has followed up with reminders and maybe threatening letters and still no payment. At some point, it becomes clear that no matter what Eli Lilly does to collect, no payment will be received and they might as well give up on collecting. This could take several months – maybe even a year to go through this process. When they give up on collecting, it is referred to as a write off. This write off very often will be in a different accounting period from the original sale.

ASSETS =			LIABILITIES		+	STOCKHOLDERS EQUITY			
CURRENT			CURRENT	LONG TERM	CAPITAL STOCK	+ EARNINGS	RETAINED		
Cash	Accounts Receivable	– Allowance				Sales Revenue	– COGS	– Bad Debt Expense	

	Increase 50,000					Increase 50,000			
		Increase 600						Increase 600	
	Decrease 150	Decrease 150							

Illustrated above is the accounting equation focused on accounts receivable. Notice a separate column for the allowance for bad debts has been added but it is in the same section as accounts receivable (so that it is easily seen as related). It is also subtracted from accounts receivable as indicated by the minus sign in the heading. The first transaction is the recording of the sales of services to lots of different customers (we lumped them together to save time) for 50,000 on credit during the accounting period. To keep it simple, we did not show any of these amounts being collected from customers (that would increase cash and decrease accounts receivable). This means that at the end of the accounting period all \$50,000 is still owed to our business. We estimate that out of all the customers and all the amounts they owe, \$600 will not be collected. We increase the allowance (because it is subtracted the current assets decrease) and increase an expense labeled for bad debts or uncollectible accounts. The third transaction is how we show the write off of an account who owed us \$150. We take it off our list of customers and also take it out of our estimate (not an estimate any more).

If we reached the end of the accounting period, we would put the following amounts on our balance sheet:

Accounts Receivable **\$49,850** represents the list of customers and the actual amounts they owe us

Less Allowance **(450)** the estimate of what we will not receive – parentheses indicates a minus or subtraction

Net Accounts Receivable **\$49,400** the actual amount we expect to receive

When we start a new accounting period the amount in the Accounts Receivable column and the allowance column will carry forward (separately) and become the beginning amount for the new period. The FASB rules do not specify how a company should come up with their estimate but they do state that at the end of the accounting period the amount of the allowance should consider all available information about our customers to determine a good estimate of what will not be collected in the future. So a business is going to consider what amount is listed in the allowance column and increase or decrease it as needed according to all available information.

Real World Example

See Eli Lilly's reporting of Accounts Receivable on their 2019 balance sheet

https://youtu.be/W3rH2B_0CK8

Key Takeaways

The cash collection cycle was used to illustrate the application of accounting principles, internal controls, financial reporting, estimates and the expanded accounting equation to two very important assets – cash and accounts receivable.

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