1 MODULE

Accounting in Business, Analyzing Transactions, and Preparing Journal

Learning Objective

6. Analyze business transactions using the accounting equation.

Decision Insight

Web Info Most organizations maintain Websites that include accounting data—see **Research in Motion (RIM.com)** as an example. The SEC keeps an online database called **EDGAR (www.SEC.gov/edgar.shtml),** which has accounting information for thousands of companies that issue stock to the public (EDGAR is being upgraded and renamed **IDEA**). Information services such as **Finance.Google.com** and **Finance.Yahoo.com** offer additional online data and analysis. ■

1. TRANSACTION ANALYSIS

Business activities can be described in terms of transactions and events. **External transactions** are exchanges of value between two entities, which yield changes in the accounting equation. An example is the sale of ad space by **Facebook**. **Internal transactions** are exchanges within an entity, which may or may not affect the accounting equation. An example is Facebook's use of its supplies, which are reported as expenses when used. **Events** refer to happenings that affect the accounting equation *and* are reliably measured. They include business events such as changes in the market value of certain assets and liabilities and natural events such as floods and fires that destroy assets and create losses. They do not include, for example, the signing of service or product contracts, which by themselves do not impact the accounting equation.

This section uses the accounting equation to analyze 11 selected transactions and events of FastForward, a start-up consulting (service) business, in its first month of operations. Remember that each transaction and event leaves the equation in balance and that assets *always* equal the sum of liabilities and equity.

Transaction 1: Investment by Owner On December 1, Chas Taylor forms a consulting business, named FastForward and set up as a proprietorship, that focuses on assessing the performance of footwear and accessories. Taylor owns and manages the business. The marketing plan for the business is to focus primarily on publishing online reviews and consulting with clubs, athletes, and others who place orders for footwear and accessories with

Point: There are 3 basic types of company operations: (1) **Services**—providing customer services for profit, (2) **Merchandisers**—buying products and re-selling them for profit, and (3) **Manufacturers**—creating products and selling them for profit.

manufacturers. Taylor personally invests $30,000 cash in the new company and deposits the cash in a bank account opened under the name of FastForward. After this transaction, the cash (an asset) and the owner's equity each equal $30,000. The source of increase in equity is the owner's investment, which is included in the column titled C. Taylor, Capital. (Owner investments are always included under the title *'Owner name,' Capital.*) The effect of this transaction on FastForward is reflected in the accounting equation as follows:

	Assets	=	Liabilities	+	Equity
	Cash	=			**C.Taylor, Capital**
(1)	**+$30,000**	=			**+$30,000**

Transaction 2: Purchase Supplies for Cash FastForward uses $2,500 of its cash to buy supplies of brand name footwear for performance testing over the next few months. This transaction is an exchange of cash, an asset, for another kind of asset, supplies. It merely changes the form of assets from cash to supplies. The decrease in cash is exactly equal to the increase in supplies. The supplies of footwear are assets because of the expected future benefits from the test results of their performance. This transaction is reflected in the accounting equation as follows:

	Assets			=	Liabilities	+	Equity
	Cash	+	**Supplies**	=			**C.Taylor, Capital**
Old Bal.	$30,000			=			$30,000
(2)	**−2,500**	**+**	**$2,500**				
New Bal.	$27,500	+	$ 2,500	=			$30,000
	$30,000				$30,000		

Transaction 3: Purchase Equipment for Cash FastForward spends $26,000 to acquire equipment for testing footwear. Like transaction 2, transaction 3 is an exchange of one asset, cash, for another asset, equipment. The equipment is an asset because of its expected future benefits from testing footwear. This purchase changes the makeup of assets but does not change the asset total. The accounting equation remains in balance.

	Assets					=	Liabilities	+	Equity
	Cash	+	**Supplies**	+	**Equipment**	=			**C.Taylor, Capital**
Old Bal.	$27,500	+	$2,500			=			$30,000
(3)	**−26,000**			**+**	**$26,000**				
New Bal.	$ 1,500	+	$2,500	+	$ 26,000	=			$30,000
			$30,000				$30,000		

Example: If FastForward pays $500 cash in transaction 4, how does this partial payment affect the liability to CalTech? What would be FastForward's cash balance? *Answers:* The liability to CalTech would be reduced to $6,600 and the cash balance would be reduced to $1,000.

Transaction 4: Purchase Supplies on Credit Taylor decides more supplies of footwear and accessories are needed. These additional supplies total $7,100, but as we see from the accounting equation in transaction 3, FastForward has only $1,500 in cash. Taylor arranges to purchase them on credit from CalTech Supply Company. Thus, FastForward acquires supplies in exchange for a promise to pay for them later. This purchase increases assets by $7,100 in supplies, and liabilities (called *accounts payable* to CalTech Supply) increase by the same amount. The effects of this purchase follow:

	Assets					=	Liabilities	+	Equity
	Cash	+	**Supplies**	+	**Equipment**	=	**Accounts Payable**	+	**C.Taylor, Capital**
Old Bal.	$1,500	+	$2,500	+	$26,000	=			$30,000
(4)		**+**	**7,100**				**+$7,100**		
New Bal.	$1,500	+	$9,600	+	$26,000	=	$ 7,100	+	$30,000
			$37,100				$37,100		

Transaction 5: Provide Services for Cash FastForward earns revenues by selling online ad space to manufacturers and by consulting with clients about test results on footwear and accessories. It earns net income only if its revenues are greater than its expenses incurred in earning them. In one of its first jobs, FastForward provides consulting services to a power-walking club and immediately collects $4,200 cash. The accounting equation reflects this increase in cash of $4,200 and in equity of $4,200. This increase in equity is identified in the far right column under Revenues because the cash received is earned by providing consulting services.

	Assets					=	Liabilities	+	Equity		
	Cash	+	**Supplies**	+	**Equipment**	=	**Accounts Payable**	+	**C.Taylor, Capital**	+	**Revenues**
Old Bal.	$1,500	+	$9,600	+	$26,000	=	$7,100	+	$30,000		
(5)	**+4,200**		_____		_____		_____		_____	+	**$4,200**
New Bal.	$5,700	+	$9,600	+	$26,000	=	$7,100	+	$30,000	+	$ 4,200
			$41,300						$41,300		

Transactions 6 and 7: Payment of Expenses in Cash FastForward pays $1,000 rent to the landlord of the building where its facilities are located. Paying this amount allows FastForward to occupy the space for the month of December. The rental payment is reflected in the following accounting equation as transaction 6. FastForward also pays the biweekly $700 salary of the company's only employee. This is reflected in the accounting equation as transaction 7. Both transactions 6 and 7 are December expenses for FastForward. The costs of both rent and salary are expenses, as opposed to assets, because their benefits are used in December (they have no future benefits after December). These transactions also use up an asset (cash) in carrying out FastForward's operations. The accounting equation shows that both transactions reduce cash and equity. The far right column identifies these decreases as Expenses.

By definition, increases in expenses yield decreases in equity.

	Assets					=	Liabilities	+	Equity				
	Cash	+	**Supplies**	+	**Equipment**	=	**Accounts Payable**	+	**C.Taylor, Capital**	+	**Revenues**	–	**Expenses**
Old Bal.	$5,700	+	$9,600	+	$26,000	=	$7,100	+	$30,000	+	$4,200		
(6)	**–1,000**		_____		_____		_____		_____		_____	–	**$1,000**
Bal.	4,700	+	9,600	+	26,000	=	7,100	+	30,000	+	4,200	–	1,000
(7)	**– 700**		_____		_____		_____		_____		_____	–	**700**
New Bal.	$4,000	+	$9,600	+	$26,000	=	$7,100	+	$30,000	+	$4,200	–	$ 1,700
			$39,600						$39,600				

Transaction 8: Provide Services and Facilities for Credit FastForward provides consulting services of $1,600 and rents its test facilities for $300 to a podiatric services center. The rental involves allowing members to try recommended footwear and accessories at FastForward's testing area. The center is billed for the $1,900 total. This transaction results in a new asset, called *accounts receivable,* from this client. It also yields an increase in equity from the two revenue components reflected in the Revenues column of the accounting equation:

	Assets							=	Liabilities	+	Equity				
	Cash	+	**Accounts Receivable**	+	**Supplies**	+	**Equipment**	=	**Accounts Payable**	+	**C.Taylor, Capital**	+	**Revenues**	–	**Expenses**
Old Bal.	$4,000	+		+	$9,600	+	$26,000	=	$7,100	+	$30,000	+	$4,200	–	$1,700
(8)		+	**$1,900**									+	**1,600**		
												+	**300**		
New Bal.	$4,000	+	$ 1,900	+	$9,600	+	$26,000	=	$7,100	+	$30,000	+	$6,100	–	$1,700
					$41,500						$41,500				

Transaction 9: Receipt of Cash from Accounts Receivable The client in transaction 8 (the podiatric center) pays $1,900 to FastForward 10 days after it is billed for consulting services. This transaction 9 does not change the total amount of assets and does not affect liabilities or equity. It converts the receivable (an asset) to cash (another asset). It does not create new revenue. Revenue was recognized when FastForward rendered the services in transaction 8, not when the cash is now collected. This emphasis on the earnings process instead of cash flows is a goal of the revenue recognition principle and yields useful information to users. The new balances follow:

Point: Receipt of cash is not always a revenue.

	Assets							=	Liabilities	+	Equity				
	Cash	+	**Accounts Receivable**	+	**Supplies**	+	**Equipment**	=	**Accounts Payable**	+	**C.Taylor, Capital**	+	**Revenues**	−	**Expenses**
Old Bal.	$4,000	+	$1,900	+	$9,600	+	$26,000	=	$7,100	+	$30,000	+	$6,100	−	$1,700
(9)	**+1,900**		**− 1,900**												
New Bal.	$5,900	+	$ 0	+	$9,600	+	$26,000	=	$7,100	+	$30,000	+	$6,100	−	$1,700
			$41,500								$41,500				

Transaction 10: Payment of Accounts Payable FastForward pays CalTech Supply $900 cash as partial payment for its earlier $7,100 purchase of supplies (transaction 4), leaving $6,200 unpaid. The accounting equation shows that this transaction decreases FastForward's cash by $900 and decreases its liability to CalTech Supply by $900. Equity does not change. This event does not create an expense even though cash flows out of FastForward (instead the expense is recorded when FastForward derives the benefits from these supplies).

	Assets							=	Liabilities	+	Equity				
	Cash	+	**Accounts Receivable**	+	**Supplies**	+	**Equipment**	=	**Accounts Payable**	+	**C.Taylor, Capital**	+	**Revenues**	−	**Expenses**
Old Bal.	$5,900	+	$ 0	+	$9,600	+	$26,000	=	$7,100	+	$30,000	+	$6,100	−	$1,700
(10)	**− 900**								**− 900**						
New Bal.	$5,000	+	$ 0	+	$9,600	+	$26,000	=	$6,200	+	$30,000	+	$6,100	−	$1,700
			$40,600								$40,600				

Transaction 11: Withdrawal of Cash by Owner The owner of FastForward withdraws $200 cash for personal use. Withdrawals (decreases in equity) are not reported as expenses because they are not part of the company's earnings process. Since withdrawals are not company expenses, they are not used in computing net income.

By definition, increases in withdrawals yield decreases in equity.

	Assets							=	Liabilities	+	Equity						
	Cash	+	**Accounts Receivable**	+	**Supplies**	+	**Equipment**	=	**Accounts Payable**	+	**C.Taylor, Capital**	−	**C.Taylor, Withdrawals**	+	**Revenues**	−	**Expenses**
Old Bal.	$5,000	+	$ 0	+	$9,600	+	$26,000	=	$6,200	+	$30,000			+	$6,100	−	$1,700
(11)	**− 200**											−	**$200**				
New Bal.	$4,800	+	$ 0	+	$9,600	+	$26,000	=	$6,200	+	$30,000	−	$200	+	$6,100	−	$1,700
			$40,400										$40,400				

Point: Knowing how financial statements are prepared improves our analysis of them. We develop the skills for analysis of financial statements throughout the book. Chapter 17 focuses on financial statement analysis.

Summary of Transactions

We summarize in Exhibit 1 the effects of these 11 transactions of FastForward using the accounting equation. First, we see that the accounting equation remains in balance after each transaction. Second, transactions can be analyzed by their effects on components of the accounting equation. For example, in transactions 2, 3, and 9, one asset increased while another asset decreased by equal amounts.

EXHIBIT 1

Summary of Transactions Using the Accounting Equation

	Assets							= Liabilities	+	Equity					
	Cash	+	Accounts Receivable	+	Supplies	+	Equipment	= Accounts Payable	+	C. Taylor, Capital	−	C. Taylor, Withdrawals	+	Revenues	− Expenses
(1)	$30,000							=		$30,000					
(2)	− 2,500			+	$2,500										
Bal.	27,500			+	2,500			=		30,000					
(3)	−26,000					+	$26,000								
Bal.	1,500			+	2,500	+	26,000	=		30,000					
(4)				+	7,100			+$7,100							
Bal.	1,500			+	9,600	+	26,000	=	7,100	+	30,000				
(5)	+ 4,200												+	$4,200	
Bal.	5,700			+	9,600	+	26,000	=	7,100	+	30,000		+	4,200	
(6)	− 1,000														− $1,000
Bal.	4,700			+	9,600	+	26,000	=	7,100	+	30,000		+	4,200	− 1,000
(7)	− 700														− 700
Bal.	4,000			+	9,600	+	26,000	=	7,100	+	30,000		+	4,200	− 1,700
(8)		+	$1,900										+	1,600	
													+	300	
Bal.	4,000	+	1,900	+	9,600	+	26,000	=	7,100	+	30,000		+	6,100	− 1,700
(9)	+ 1,900	−	1,900												
Bal.	5,900	+	0	+	9,600	+	26,000	=	7,100	+	30,000		+	6,100	− 1,700
(10)	− 900							− 900							
Bal.	5,000	+	0	+	9,600	+	26,000	=	6,200	+	30,000		+	6,100	− 1,700
(11)	− 200										−	$200			
Bal.	$ 4,800	+	$ 0	+	$ 9,600	+	$ 26,000	=	$ 6,200	+	$ 30,000	− $ 200	+	$6,100	− $ 1,700

DEMONSTRATION PROBLEM

After several months of planning, Jasmine Worthy started a haircutting business called Expressions. The following events occurred during its first month of business.

a. On August 1, Worthy invested $3,000 cash and $15,000 of equipment in Expressions.
b. On August 2, Expressions paid $600 cash for furniture for the shop.
c. On August 3, Expressions paid $500 cash to rent space in a strip mall for August.
d. On August 4, it purchased $1,200 of equipment on credit for the shop (using a long-term note payable).
e. On August 5, Expressions opened for business. Cash received from haircutting services in the first week and a half of business (ended August 15) was $825.
f. On August 15, it provided $100 of haircutting services on account.
g. On August 17, it received a $100 check for services previously rendered on account.
h. On August 17, it paid $125 cash to an assistant for hours worked during the grand opening.
i. Cash received from services provided during the second half of August was $930.
j. On August 31, it paid a $400 installment toward principal on the note payable entered into on August 4.
k. On August 31, Worthy made a $900 cash withdrawal from the company for personal use.

Required

1. Arrange the following asset, liability, and equity titles in a table similar to the one in Exhibit 1: Cash; Accounts Receivable; Furniture; Store Equipment; Note Payable; J. Worthy, Capital; J. Worthy, Withdrawals; Revenues; and Expenses. Show the effects of each transaction using the accounting equation.

2. Prepare an income statement for August.
3. Prepare a statement of owner's equity for August.
4. Prepare a balance sheet as of August 31.
5. Prepare a statement of cash flows for August.
6. Determine the return on assets ratio for August.

PLANNING THE SOLUTION

- Set up a table like Exhibit 1 with the appropriate columns for accounts.
- Analyze each transaction and show its effects as increases or decreases in the appropriate columns. Be sure the accounting equation remains in balance after each transaction.
- Prepare the income statement, and identify revenues and expenses. List those items on the statement, compute the difference, and label the result as *net income* or *net loss*.
- Use information in the Equity columns to prepare the statement of owner's equity.
- Use information in the last row of the transactions table to prepare the balance sheet.
- Prepare the statement of cash flows; include all events listed in the Cash column of the transactions table. Classify each cash flow as operating, investing, or financing.
- Calculate return on assets by dividing net income by average assets.

SOLUTION TO DEMONSTRATION PROBLEM

	Assets							=	Liabilities	+	Equity						
	Cash	+	Accounts Receivable	+	Furniture	+	Store Equipment	=	Note Payable	+	J.Worthy, Capital	−	J.Worthy, Withdrawals	+	Revenues	−	Expenses
a.	$3,000						$15,000				$18,000						
b.	− 600			+	$600												
Bal.	2,400	+		+	600	+	15,000	=			18,000						
c.	− 500															−	$500
Bal.	1,900	+		+	600	+	15,000	=			18,000					−	500
d.						+	1,200		+$1,200								
Bal.	1,900	+		+	600	+	16,200	=	1,200	+	18,000					−	500
e.	+ 825													+	$ 825		
Bal.	2,725	+		+	600	+	16,200	=	1,200	+	18,000			+	825	−	500
f.		+	$100											+	100		
Bal.	2,725	+	100	+	600	+	16,200	=	1,200	+	18,000			+	925	−	500
g.	+ 100	−	100														
Bal.	2,825	+	0	+	600	+	16,200	=	1,200	+	18,000			+	925	−	500
h.	− 125															−	125
Bal.	2,700	+	0	+	600	+	16,200	=	1,200	+	18,000			+	925	−	625
i.	+ 930													+	930		
Bal.	3,630	+	0	+	600	+	16,200	=	1,200	+	18,000			+	1,855	−	625
j.	− 400								− 400								
Bal.	3,230	+	0	+	600	+	16,200	=	800	+	18,000			+	1,855	−	625
k.	− 900											−	$900				
Bal.	$ 2,330	+	0	+	$600	+	$ 16,200	=	$ 800	+	$ 18,000	−	$900	+	$1,855	−	$625

GLOSSARY

- **Events** generate transaction and affect the accounting equation.
- **External transactions** result in exchange of value between business enterprises and external entities. These external transactions affect the accounting equation.
- **External transactions** are like capital contribution by owner, sale and purchase of goods and services, deposit of cash, and withdrawal of cash from the bank, and payment of expenses and receipt of revenue.
- **Internal transactions** are exchanges within business enterprises, which may or may not affect the accounting equation.

SUMMARY

A transaction is an exchange of economic consideration between two parties. Examples include exchanges of products, services, money, and rights to collect money. Transactions always have at least two effects on one or more components of the accounting equation. This equation is always in balance.

FORMULAE

1. Assets = Liabilities + Equity
2. A positive difference between revenue and expenses is called profit and a negative difference between revenue and expenses is called loss.
3. Closing equity = Opening equity + Further capital contribution + Revenue – Expenses – Withdrawal by the owner

TIPS

- An increase in the owner's equity results in a corresponding increase in assets.
- An increase in liabilities corresponds to a similar increase in assets.
- A decrease in the owner's equity results in a corresponding decrease in assets.
- A decrease in liabilities might have a corresponding effect on the owner's equity or assets.
- Payment of expenses reduces the owner's equity.
- Revenue increases the owner's equity.
- Loss reduces the owner's equity.
- Payment of liability reduces assets.