IENG/MANE 112

Accounting

Accounting is the function of recording, summarizing, and presenting the historical financial data of a business.
In accounting, the amounts of and the changes in the company's *assets*, *liabilities*, and *net worth* are recorded and reported.

1. Basic Notions

- **Asset:** anything which is owned by the company and has monetary value.
    - **E.**g. equipment, land, buildings, cash, inventories, supplies in hand, prepaid expenses.
- **Liability:** Any debt what the company owes to its creditors.
    - **E.**g. suppliers obtain their money later ↔ accounts payable
    - Taxes payable, mortgages payable, etc.
- **Net Worth:** net worth = assets – liabilities

Equation above is often referred to as the accounting equation although it is most often shown as in the following equation.
Assets = liabilities+ net worth

A formal presentation of the accounting equation is called a balance sheet, which is a statement of the financial position of a company at a point in time.

December 31, 19x7

ASSETS		LIABILITIES		
Cash	$ 3,000	Accounts Payable	$ 2,000	
Accounts Receivable	2,000	Bank Loan	5,000	
Supplies on Hand	3,000	Mortgage	10,000	
Land	6,000	Total Liabilities	$17,000	
Buildings	9,000			
Total Assets	$23,000	NET WORTH		
		Capital Stock	$ 4,500	
		Retained Earnings	1,500	
		Total Net Worth	$ 6,000	
		Total Liabilities Plus Net Worth		$23,000

- **Dynamic version**
    - assets = liabilities + net worth + (revenues – expenses)
    -

The balance sheet is a formal statement of the first three items of the revised accounting equation. A formal statement of the other two items is called an income statement.

Consider the balance sheet shown in the previous figure and the following occurrences:

2. Changes between categories

Examples

1. **Buying office supplies:** The supply is paid, however it is at hand, and therefore total value of the company does not change.
   Example. Office supply of worth $100 is purchased.
   Cash decreases by $100
   The value of supplies at hand increases by $100
2. **Sales:** If the sold product is not paid immediately then the value of "receivable" is increased.
   Example. Products of value $1200 are sold.
   Accounts receivable is increased by $1200
   Sales quantity is also increased by $1200
3. **New liability which is not paid immediately:** The "payable" amount is increased.
   Example. Monthly rent fee of $200 will be due after one month.
   Accounts payable is increased by $200
   Rent fee is increased by $200
4. **Previously purchased supply is used:** The value of the company is decreased by this.
   Example. Office supply of value $100 is used in the month.
   Supplies at hand is decreased by $100
   Supply expense is increased by $100
5. **Salaries paid:** It decreases the cash of the company and increases the paid salaries.
   Example. Salaries of value $800 is paid in the month.
   Cash is decreased by $800
   Total salary paid is increased by $800

Balance Sheet
January 30, 19 x 8

ASSETS		LIABILITIES	
Cash	$ 2,100	Accounts Payable	$ 2,200
Accounts Receivable	3,200	Bank Loan	5,000
Supplies on Hand	3,000	Mortgage	10,000
Land	6,000	Total Liabilities	$17,200
Buildings	9,000		
Total Assets	$23,300	NET WORTH	
		Capital Stock	$ 4,500
		Retained Earnings $1,500 + $100 profit for January	1,600
		Total Net Worth	$ 6,100
		Total Liabilities + Net worth	$23,300

Income Statement
January 30, 1978

REVENUES			
Sales		$1,200	
EXPENSES			
Rent	$200		
Supplies	100		
Salaries	800		
Total Expenses		$1,100	
Net Profit to Retained Earnings			$100

Accounting Equation
January 30, 1978

ASSETS		LIABILITIES	
Cash	$ 2,100	Accounts Payable	$ 2,200
Accounts Receivable	3,200	Bank Loan	5,000
Supplies on Hand	3,000	Mortgage	10,000
Land	6,000	Total Liabilities	$17,200
Buildings	9,000		
Total Assets	$23,300	**NET WORTH**	
		Capital Stock	$ 4,500
		Retained Earnings	1,500
		Total Net Worth	$ 6,000
		REVENUES	
		Sales	$ 1,200
		EXPENSES	
		Rent	$ 200
		Supplies	100
		Salaries	800
		Total Expenses	$ 1,100

Assets = liabilities + net worth + revenues − expenses
23,300 = 17,200 + 6,000 + 1,200 − 1,100 = $23,300

3. Cost Accounting

- **Direct Material Cost:** the cost of any material which is directly used in the production of a product.
- **Direct Labor Cost:** Any labor cost which occurs in the production of a product.
- **Overhead:** anything else.
- **Examples.**

Direct Material	Direct Labor	Overhead
Raw material	Workers' salary	Depreciation of equipments
	Material handling workers' salary	Taxes not related to labor
		Maintenance
		Insurance

One of the major problems encountered in cost accounting is deciding how to charge overhead to production. By its very nature, overhead is "neither directly nor conveniently" chargeable to a specific product. For example, if an inspector inspects 50 different products during a period and if the volume for each ranges from very small to very large, how is his cost to be broken up? Cost accounting does this in several different ways, but three of the most popular ways are listed below:

(1) Overhead is charged as a percentage of the direct labor cost in the product.

(2) Overhead is charged as a percentage of the direct material cost in the product.

(3) Overhead is charged on a rate per direct labor hour in the product where the rate is estimated beforehand.