

Accounting in Microsoft Excel

1. Introduction

One of the most important tasks in society to be aware of is how to manage one's finances. However, this can be more difficult than many people may expect. Given the many types of expenses we all have to manage to get through daily life, sorting each one of them is a feat that sticky notes and phone reminders are not equipped to handle. One application that is underutilized yet perfectly capable for sorting one's financial situation, whether they are a lone individual or a successful business, is Microsoft Excel.

2. Accounting Education

A. Accounting Basics

Good financial decisions are rooted in an understanding of several different accounting principles. For the purposes of this document, we are only going to focus on three: the cost principle, the matching principle, and the objectivity principle.

The cost principle says that accounting documents should record assets at their original cost rather than their current market value. This allows for the proper recording of depreciating products, such as land or vehicles. The matching and objectivity principles say that expenses and revenues should be matched and recorded in their corresponding accounting period, and such recordings should be accurate and unbiased.

B. Financial Statements

A good accountant should know how to record financial documents, such as: income statements, and balance sheets. These documents are typically used by official businesses, but they could also apply to the individual level if one wishes to use them as such.

Balance sheets and income statements are documents that often get confused for having similar purposes. Both record the financial health of their subjects, but what sets them apart is the time frame and the purpose behind each document. Balance sheets are meant to record a company's finances at a specific point in time, and can be used as a quick overview of its current situation.

Income statements record finances over a period of time. This is to determine whether the company operated at a gain or a loss, and to track potential trends over that period. In addition, balance sheets report assets, liabilities and stockholder's equity, whereas income statements simply report revenue and expenses.

Figure 1

[Company Name]		© Corporate Finance Institute®. All rights reserved.				
Balance Sheet						
[USD \$ millions]						
	2014	2015	2016	2017	2018	
Assets						
Current assets:						
Cash	167,971	181,210	183,715	211,069	239,550	
Accounts Receivable	5,100	5,904	6,567	7,117	7,539	
Prepaid expenses	4,806	5,513	5,170	5,998	5,682	
Inventory	7,805	9,601	9,825	10,531	11,342	
Total current assets	185,682	202,228	205,277	234,715	264,112	
Property & Equipment	45,500	42,350	40,145	38,602	37,521	
Goodwill	3,580	3,460	3,910	3,870	3,850	
Total Assets	234,762	248,038	249,332	277,187	305,483	
Liabilities						
Current liabilities:						
Accounts Payable	3,902	4,800	4,912	5,265	5,671	
Accrued expenses	1,320	1,541	1,662	1,865	1,899	
Unearned revenue	1,540	1,560	1,853	1,952	1,724	
Total current liabilities	6,762	7,901	8,427	9,082	9,294	
Long-term debt	50,000	50,000	30,000	30,000	30,000	
Other long-term liabilities	5,526	5,872	5,565	6,051	5,909	
Total Liabilities	62,288	63,773	43,992	45,133	45,203	
Shareholder's Equity						
Equity Capital	170,000	170,000	170,000	170,000	170,000	
Retained Earnings	2,474	14,265	35,340	62,053	90,280	
Shareholder's Equity	172,474	184,265	205,340	232,053	260,280	
Total Liabilities & Shareholder's Equity	234,762	248,038	249,332	277,187	305,483	
Check	0.000	0.000	0.000	0.000	0.000	

C. Assets, Liabilities and Stockholder's Equity

Assets are anything that a business owns or controls that leads to an improvement in economic activity. Liabilities are assets that a business owes to another, which can be either dangerous or essential for the business's duties. Equity is assets that are owned by a business's owners, after all of its liabilities are excused.

Examples of Assets include:

- Liquid assets, such as cash and cash equivalents
- Inventory on hand
- Patents and investments
- Long-term investments, such as real estate and trademarks

Examples of Liabilities include:

- Payment of employees, taxes, and utilities
- Future potential outcomes of past events, such as lawsuits or warranties
- Long-term debts, such as mortgages

The most important equation in accounting is:

$$\text{Assets} = \text{Liabilities} + \text{Stockholder's Equity}$$

This can also be referred to as Debit = Credit. *Debit*, in this case, is anything that increases assets while decreasing liability and equity. *Credit*, on the other hand, increases liabilities and equity while reducing assets.

As mentioned above, every asset is also either a liability or equity. When one side of the equation changes in value, the other side must change to balance out. For example, if a company pays an employee \$200 in cash for their salary, then 200 should be removed from the Cash section in Assets, and also removed from the Employee Payments section in Liabilities.

3. Microsoft Excel Education

A. Cell Basics

The normal layout for Microsoft Excel is a spreadsheet that is made up of similar rows (identified by numbers) and columns (identified by letters). These rows and columns contain boxes called *cells*, which are meant to hold values inputted by the user and confirmed by hitting the enter key. Like points on a coordinate plane, each cell has a name that is based on the row and column it is located. This allows Excel to describe and perform specific actions on the values in each cell.

The *formula bar* is set right above the Excel spreadsheet. Whenever you click a specific cell, the formula bar will display the name and value of that cell. You can input a value into a cell from the formula bar instead of the cell itself, and confirm the value by clicking on the green checkmark next to the bar.

You can change the size of a column or row. To do this, you can manually hold the mouse on the border between two column or row headings, and dragging to one side until that column or row is the size you want.

You can merge cells together in order to have one cell in multiple columns and/or rows, which can be useful for creating headings. To do this, highlight the cells that you want to merge by scrolling the mouse over them. Then, click on the *Merge Cells* logo in the Home tab.

B. Ranges

A *range* is a group of cells that are linked together. Ranges can be as small as two adjacent cells in a single row or column, or as big as hundreds of cells in many rows and columns. Ranges can also have names, which are signified by saying the cell in its top left corner, the word “through”, then the cell in its bottom right.

Instead of typing the word “through” in Excel, the symbol for “through” is a colon in between two cells with no spaces. For example, if we make a range with a box where the top left cell is B7, and the bottom right cell is F9, the range will have the name “B7:F9”.

If you wish to move a cell or range without cut-and-pasting, hold down the right-click button and drag the mouse over the section that you want to move until it’s all selected. Then, move your mouse to the section’s border. When the pointer becomes a move pointer, drag the cell/range to where you want it to be placed. Excel copies the moved cells, and alters any functions relating to them. For example, if a cell is meant to report a value in the range G5:G18, but

you move the range three columns to the left so that it is now in the D column, that cell will automatically realign to cover the new D5:D18 range.

C. Formulas

Excel allows users to type numerical formulas in a cell, and instead of the cell's value being the equation itself, the value becomes the equation's result. In order for Excel to recognize the formula as an equation, type the equal sign at the beginning, then type your equation in the cell with no spaces, and hit the enter key to reveal the answer. For example, typing "`=54/3+4`" in a cell leaves behind a value of 25.

Functions in Excel allow users to refer to values in other cells, and then report the result from a specific operation. Each function has a key term, called an *operator*, to which Excel performs the relevant action in the provided range. Functions work similarly to formulas, with minor alterations.

After you type the equal sign, add the operator, then put the cell or range that you want the function to focus on in parenthesis. For example, if you want to determine the result of adding all numbers in the range "O6:O18", type "`=SUM(O6:O18)`" in a cell.

Certain functions and/or situations will require you to call upon multiple cells, ranges and/or numbers at the same time. In these instances, you will use a comma to separate each of them, with the action possibly depending on the order of items placed. For example, say that you want to figure out the remainder of the value in cell A12, which is 354, when divided by 7. You would use the function "`MOD(A12, 7)`" to determine the answer is 4. However, if you switch the order around and divide the 7 by 354, Excel would report the remainder as that smaller number, which is 7.

Potentially relevant operators for this document are:

- ABS(): Reports the absolute value of a number
- AVERAGE(): Reports the average of all values
- CEILING(): Rounds a number with a decimal up
- COUNT(): Reports the number of cells that only contain numerical values
- FLOOR(): Rounds a number with a decimal down
- MOD(): Reports the remainder of a divided number
- SUM(): Reports the result of all numerical values

4. Implementing Accounting Into Excel

A. Starting From Scratch

Once you have learned the basics of accounting and Microsoft Excel, you can finally start making financial statements. One way to start is by making labels in each column for where you want the relevant information to go. For instance, in a general spreadsheet, you would put “Date” as the heading of one column, then “Type” in another column, “Description” in a third, and so on. Rows would typically be sorted by date, having the earliest transactions at the top of the spreadsheet, and the latest transactions at the bottom.

Figure 2

	A	B	C	D	E	F	G
5							
6	Ref #	Date	Account #	Account Title		Debit	Credit
7	1	1/2/17	1-100	Cash		1,080.00	
8		1/2/17	1-600	Land		420.00	
9		1/2/17	2-700	Bank Loan Payable			500.00
10		1/2/17	3-100	Common stock			1,000.00
11							
12							
13	2	1/15/17		Land (Vermont Avenue)	Purchased Vermont Avenue	100	
14		1/15/17		Cash			100
15							
16	3	1/31/17		Misc. Expense	Hospital Fees	100	
17		1/31/17		Cash			100
18							
19	4	2/14/17		Cash	Passed GO	200	
20		2/14/17		Service Revenue			200
21							
22	5	2/14/17		Rent Expense	Paid rent for landing on Reading Railroad	25	
23		2/14/17		Cash			25
24							
25	6	2/14/17		Rent Receivable	Will get rent from St. James Place	14	
26		2/14/17		Rent Revenue			14
27							
28	7	2/28/17		Rent Receivable	Will get rent from Illinois Avenue	20	
29		2/28/17		Rent Revenue			20
30							
31	8	3/15/17		Cash	Got rent from Illinois Avenue	20	
32		3/15/17		Rent Receivable			20
33							
34	9	3/15/17		Cash	Got rent from St. James Place	14	
35		3/15/17		Rent Receivable			14
36							
37	10	4/1/17		Prepaid Rent	Paid Jacob's team	300	
38		4/1/17		Cash			300
39							

If a cell's value is too large or small for its value, remember that you can manually change the width of any column to make your document easier to read.

When creating an income statement, list your sources of revenue and expenses, and the values of each. Balance sheets are more complicated: you must list all of your assets, liabilities, and stockholder's equity in their respective categories. The value of your assets should be equal to the value of

your liabilities plus stockholder's equity. If your values are not balanced, then there is likely some incorrect data or miscalculations.

Fill in the cells regarding each transaction in the respective columns, and use functions to format your information and to avoid having to calculate the total values of everything by hand.

B. Pre Written Templates

Making financial statements in Excel from scratch isn't for everyone, which is why the application offers a multitude of premade templates for many different types of projects. When activating Microsoft Excel, you are shown several different templates in the Home section. Instead of clicking on the Blank Workbook, click on "More Templates" to view a wide array of templates meant for accounting and finances.

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