Financial Accounting Week 10 Chapter 7-Capitalization vs. Expensing:

Hello everyone! This week the resource will be walking through capitalization and depreciation. Additionally, I will be providing Accounting group tutoring sessions from 6:30-7:30pm on Tuesdays over Microsoft Teams each week. If you would like to attend those sessions or want to schedule a 1-on-1 appointment with one of our fantastic accounting tutors, please visit www.baylor.edu/tutoring to make an appointment!

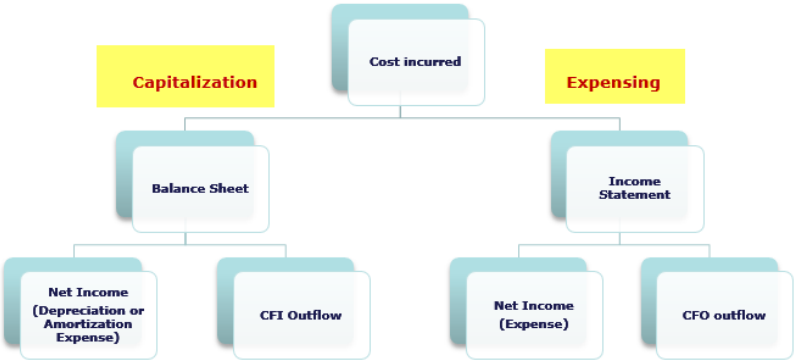
-Jerry

Most costs incurred by a business are **expensed** meaning that they are recorded as expenses and subtracted directly from Net Income on the Income Statement.

Capitalizing costs refers to recording costs associated with an asset as part of the asset itself instead of recording these costs as expenses on the income statement. These assets are then depreciated over time so that these expenditures can be smoothly allocated as expenses to the income statement. Capital expenditures are usually quite large and would therefore inject a high amount of volatility into Net Income if they were treated as regular expenses

A general rule of thumb for determining what to include in a capital asset is that a capital asset is the sum of the acquisition costs and the costs to bring the asset to its intended use.

The following chart illustrates how expensing and capitalizing costs impacts the financial statements:



(WallStreetMojo.com)

The main capital asset accounts are: Land, Land Improvements, Buildings, and Machinery and Equipment

The **Land** account includes the following costs:

Purchase price, Brokerage fees, Survey fees, Legal fees, Back property taxes, Expenditures for grading and clearing land, and Removing unwanted buildings (Subtract off salvage material) Note: Land is **NOT** depreciated

The **Land Improvements Account** includes the following costs:

Driveways, Fences, Sprinkler System, Signage, and Lighting

Note: Land Improvements **ARE** depreciated

The **Building** account includes the following costs:

Architectural fees, Building permits, Contractor fees, Payments for materials, labor, and overhead, Interest on loans for construction, Purchase price of existing building, Brokerage commission, Sales and other taxes, Expenditures to repair and renovate building (prior to bringing to intended use)

The **Machinery** and **Equipment** Account includes the following costs:

Purchase Price (minus any discounts), Transportation from seller, Insurance while in transit, Sale tax and other taxes, Purchase Commission, Installation Costs, Testing costs, and Special flatforms (ex. Mounting machinery)

For more on capitalization and some examples of calculations, take a look at the following video:

https://youtu.be/zOmwJ_GpdQ0 (Edspira.com)

Lump Sum Purchases- This happens when multiple capital assets are purchased at once. To record this, we allocate the purchase price across the assets based upon their market price.

For example, Baylor, Inc. purchased some land that already had a warehouse and an office building. It was purchased for a lump sum of $400,000. The market values are appraised at $200,000 for the land, $75,000 for the warehouse, and $225,000 for the office building. At what cost will the land, warehouse, and office building be recorded at?

Solution: We divide the cost into "buckets" by multiplying the lump sum price by the $\frac{Market\ price\ of\ asset}{Total\ Market\ Price\ of\ all\ assets\ in\ Purchase}$

Land: $400,000*$\frac{\$200,000}{\$500,000}$= $160,000

Warehouse: $400,000*$\frac{\$75,000}{\$500,000}$= $60,000

Office Building: $400,000*$\frac{\$225,000}{\$500,000}$= $180,000

Note: The lump sum values for each account should add up to the lump sum purchase price

Depreciation: A method used to allocate expenses associated with an asset over its useful life. Note that this is **NOT** a method of valuation.

Terms Associated with Depreciation:

- **Depreciable cost:** Asset Cost -Estimated Residual Value
- **Accumulated Depreciation:** a contra-asset account that records the amount of depreciation over time
- **Book Value:** Asset Cost – Accumulate depreciation. This is the amount recorded on the balance sheet for a depreciable asset
- **Estimate Useful Life:** length of service expected from asset that can be measured in years, units of output, miles, or some other unit.
- **Estimate Residual Value:** Also known as scrap or salvage value, this is the cash value of the asset at the end of its life. This value is **NOT** depreciated.

Journal Entry for Depreciation:

DR: Depreciation Expense

CR: Accumulated Depreciation

<u>Methods of Calculating Depreciation Expense:</u>

Straight-Line:

- Formula: $\frac{Asset\ Cost - Salvage\ Value}{Useful\ Life}$
- Depreciation will be equal each period as it is allocated by useful life
- Example: Bob has a truck that cost $10,000 has a useful life of 9 years and a salvage value of $1000. Calculate depreciation expense for each period and the book value for two years down the road using straight line.
- Answer: Depreciation Expense: $\frac{\$10,000-\$1,000}{9}$= $1,000. JE for first and second year: DR: Depreciation Exp: $1,000 and CR: Accumulated Depreciation: $1,000. Book value after two years= $10,000 (original cost)-$2,000 (Accumulated Depreciation).
- Additional Example: https://www.youtube.com/watch?v=RHo_3kWaIJo&list=PL_KGEFWqEaTCDEzqFn0imjpyIRDy4p63s&index=119 (Edspira.com)

Units of Production:

- Depreciation Expense is allocated based on the units produced (activity level)

- Formula: $\frac{Asset\ Cost - Salvage\ Value}{Useful\ Life\ (In\ units\ of\ production)}$ * Actual amount of unit produced during period
- Example: The cookie monster has a cookie machine that cost $20,000, has a salvage value of $2,000, and can produce 6,000 cookies over its useful life. Calculate depreciation expense if the cookie monster made 4000 cookies this period using units of production.
- Solution: $\frac{\$20,000-\$2,000}{6000}$ * 4000 = $12,000
- Additional example: https://www.youtube.com/watch?v=jOde49ebWvQ (Edspira.com)

Double Declining Balance:

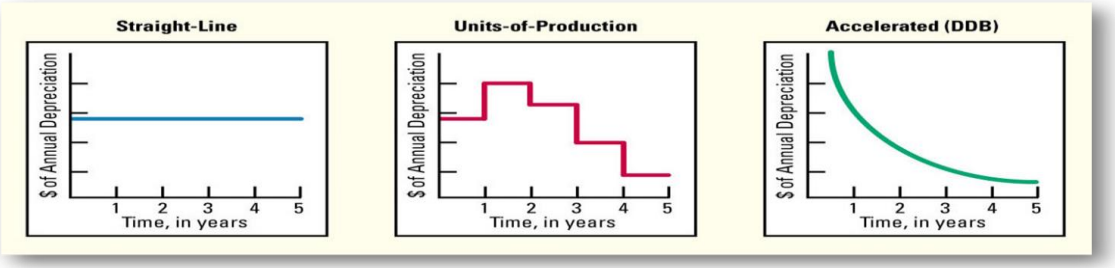
- An accelerated method of depreciation that writes off a larger amount of depreciation towards the beginning of the asset's life.
- Formula: 2 * $\frac{1}{Useful\ Life}$ * Book value of asset
- Common mistake: Do **NOT** subtract out a salvage value. DDB does not consider salvage values until the last year where the salvage value will be the ending book value and the depreciation expense will be the difference between the salvage value and the calculated depreciation expense for that year. I highly recommend watching the video below to see this in action.
- Example: As a hypothetical example, suppose a business purchased a $30,000 delivery truck, which was expected to last for 10 years. After 10 years, it would be worth $3,000, its salvage value. Calculate Depreciation Expense using double declining balance. (Investopedia.com).
- Solution: Year 1: 2 * $\frac{1}{10}$ * $30,000 = $6,000

  Year 2: 2 * $\frac{1}{10}$ * $24,000 (Last years BV – ACC. Depreciation of $6,000) = $4,800

  Year 3: 2 * $\frac{1}{10}$ * $19,200 (Last years BV – ACC. Depreciation of $4,800) = $3,840

  ETC…
- Additional example: https://www.youtube.com/watch?v=ziayge17w6g (Edspira.com)

Another way to think of each of these methods is to look at their behavior graphically overtime. Straight line has a linear behavior as its depreciation is the same each year, units of production has a varied behavior that depends upon actual output, and DDB has an exponential behavior. See the graph below to see this in action.



Accounting for Natural Resources:

Resource is **depleted** using the same formula/method as units of production depreciation

If **ALL** of the resource is **sold** the amount depleted is recorded as an expense (eg. COGS)

If any of the resource is not sold, this amount is recorded as inventory

Intangible Assets:

A legal right to use or own that does not have a physical form.

Examples: Patents, copyrights, franchises, trademarks, and goodwill

These assets are recorded at cost (Purchase price – fees)

These assets are **amortized** using the same formula as straight-line depreciation.

Note: Useful life is the **Shorter of** legal period or useful life

JE for amortization: DR: Amortization Expense CR: Intangible Asset

Goodwill

Definition: A special intangible asset recorded when a company purchases another company at a price greater that the Net Assets of the acquired company.

Formula: Goodwill = Purchase Price – Net Assets (Only record goodwill when Price > net assets)

Net assets (Equity) = Assets – Liabilities

For more on goodwill: https://www.youtube.com/watch?v=SoZpDwoyEJ8&feature=youtu.be (Edspira.com)

Exhibit 7-1 | Long-Lived Assets and Related Expense Accounts

Asset Account (Balance Sheet)	Related Expense Account (Income Statement)
Plant Assets	
Land	None
Buildings, Machinery, and Equipment	Depreciation Expense
Furniture and Fixtures	Depreciation Expense
Land Improvements	Depreciation Expense
Natural Resources	Depletion Expense (through cost of goods sold)
Intangibles	Amortization Expense

Sources Used to Create this Document

https://www.wallstreetmojo.com/capitalization-vs-expensing/

https://www.edspira.com/index-financial-accounting/

Pearson Education

Financial Accounting by Harrison, Horngren, and Thomas, 12th Edition, Prentice Hall

Investopedia.com