

CASE STUDIES OF ACCOUNTING CONCEPTS AND METHODOLOGIES

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THESIS ABSTRACT
BRUCE SENTER: Case Studies of Accounting Concepts, Documentation, and
Methodologies

Instead of the traditional honors thesis that is written during a winter internship and communicated to the dean throughout the course of work, the following alternative thesis is composed of twelve individual case studies that were drawn from the course Accountancy 420. The course, led by Dr. Victoria Dickinson, was scheduled in a way that the cases were worked on in conjunction with professional meetings and presentations, in which members of accounting firms or various other businesses would discuss topics relating to the current state of accounting, their specific industry, and how the two intertwine. The case studies all required, in some form or another, analysis of a company's financial statements and a certain level of critical thinking to reason out how a certain accounting principle applies to the figures and line items presented. As is evident from the attached case studies, the companies examined are from a wide range of industries and have greatly varying revenue streams. Additionally, there are even foreign companies explored in some of the case studies which offer a unique look into the International Financial Reporting Standards (IFRS) that is not usually covered in the undergraduate accounting courses I have completed thus far.

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CASE STUDY ONE
Home Heaters Inc.
Financial Analysis of Glenwood and Eads

Introduction

The following data enclosed in the case study presents the financial decisions and statements of two companies selling home heating units in Colorado, Eads Heaters, Inc. and Glenwood Heating, Inc. The case study finds the two companies both in the first year of business, with very similar operations yet different accounting techniques when applying GAAP to their financial statements. Part A delineates the transactions that both companies make to begin operations along with a trial balance, while Part B highlights the subsequent choices made by managers that differ; this section consists of each company's separate transactions, new trial balance, income statement, statement of retained earnings, and finally balance sheet. The financial information about the two companies is then used to calculate ratios on liquidity, debt management, and profitability in order to make a decision in which company one should invest. The appendix at the tail end of the case study includes the general journal used for both companies to keep track of transactions.

Part A:

Table 1-1 Basic Transactions, Both Companies

Transaction	Assets						=	Liabilities			+	Stockholders' Equity	
	Cash	Accounts Receivable	Inventory	Land	Building	Equipment	Accounts Payable	Notes Payable	Interest Payable	Common Stock	Retained Earnings		
No. 1	160,000										160,000		
No. 2	400,000							400,000					
No. 3	(420,000)			70,000	350,000								
No. 4	(80,000)					80,000							
No. 5			239,800				239,800						
No. 6		398,500									398,500		
No. 7	299,100	(299,100)											
No. 8	(213,360)						(213,360)						
No. 9	(41,000)							(20,000)			(21,000)		
No. 10	(34,200)										(34,200)		
No. 11	(23,200)										(23,200)		
No. 12									6,650		(6,650)		
Balances	47,340	99,400	239,800	70,000	350,000	80,000	26,440	380,000	6,650	160,000	313,450		

Table 1-2 Basic Trial Balance, Both Companies

	Debits	Credits
Cash	47,340	
Accounts Receivable	99,400	
Inventory	239,800	
Land	70,000	
Building	350,000	
Equipment	80,000	
Accounts payable		26,440
Note payable		380,000
Interest payable		6,650
Common Stock		160,000
Dividend	23,200	
Sales		398,500
Other operating expenses	34,200	
Interest expense	27,650	
Total	971,590	971,590

Part B:

Table 1-3 Additional Information for Glenwood

Transaction	Cash	Accounts Receivable	Allowance for Bad Debts	Inventory	Land	Building	Accumulated Depreciation - Building	Equipment	Accumulated Depreciation - Equipment
Balances: Part A	47,340	99,400		239,800	70,000	350,000		80,000	
Part B (1) Bad Debts			994						
Part B (2) COGS				(177,000)					
Part B (3) Depreciation							10,000		9,000
Building									
Equipment									
Part B (4) Equipment	(16,000)								
Rental Payment									
Part B (5) Income Tax	(30,914)								
Balances: Part A	426	99,400	994	62,800	70,000	350,000	10,000	80,000	9,000

	Accounts Payable	Interest Payable	Note Payable	Common Stock	Retained Earnings
Balances: Part A	26,440	6,650	380,000	160,000	313,450
Part B (1) Bad Debts					(994)
Part B (2) COGS					(177,000)
Part B (3) Depreciation					
Building					(10,000)
Equipment					(9,000)
Part B (4) Equipment					
Rental Payment					(16,000)
Part B (5) Income Tax					(30,914)
Balances: Part A	26,440	6,650	380,000	160,000	69,542

Table 1-4 Glenwood Trial Balance

Glenwood Heating, Inc.		
Trial Balance -- Part A		
	Debits	Credits
Cash	426	
Accounts Receivable	99,400	
Allowance for Bad Debts		994
Inventories	62,800	
Land	70,000	
Building	350,000	
Accumulated depreciation -building		10,000
Equipment	80,000	
Accumulated depreciation -equipment		9,000
Accounts Payable		26,440
Interest Payable		6,650
Note Payable		380,000
Common Stock		160,000
Dividend	23,200	
Sales		398,500
Cost of Good Sold	177,000	
Other Operating Expenses	34,200	
Bad debt expense	994	
Depreciation expense - build	10,000	
Depreciation expense - equip	9,000	
Rent expense	16,000	
Interest expense	27,650	
Provision for income tax	30,914	
Total	991,584	991,584

Table 1-5 Additional Information for Eads

Transaction	Cash	Accounts Receivable	Allowance for Bad Debts	Inventory	Land	Building	Accumulated Depreciation - Building	Equipment	Accumulated Depreciation - Equipment	Leased Equipment	Accumulated Depreciation - Lease
Balances: Part A	47,340	99,400		239,800	70,000	350,000		80,000			
Part B (1) Bad Debts			4,970								
Part B (2) COGS				(188,800)							
Part B (3) Depreciation Building							10,000				
Equipment								20,000			
Part B (4) Equipment Lease										92,000	
Lease Payment	(16,000)										11,500
Depreciation											
Part B (5) Income Tax	(23,505)										
Balances: Part A	7,835	99,400	4,970	51,000	70,000	350,000	10,000	80,000	20,000	92,000	11,500
Balances: Part A	26,440	6,650	380,000	160,000	313,450						
Part B (1) Bad Debts					(4,970)						
Part B (2) COGS					(188,800)						
Part B (3) Depreciation Building					(10,000)						
Equipment					(20,000)						
Part B (4) Equipment Lease										92,000	
Lease Payment					(8,640)					(7,360)	
Depreciation					(11,500)						
Part B (5) Income Tax					-23,505						
Balances: Part A	26,440	6,650	380,000	83,360	160,000						47,315

Table 1-6 Eads Trial Balance

Eads Heaters, Inc.		
Trial Balance- Part B		
	<u>Debits</u>	<u>Credits</u>
Cash	7,835	
Accounts Receivable	99,400	
Allowance For Bad Debts		4,970
Inventory	51,000	
Land	70,000	
Building	350,000	
Accumulated Depreciation- Building		10,000
Equipment	80,000	
Accumulated Depreciation- Equipment		20,000
Leased Equipment	92,000	
Accumulated Depreciation- Leased Equipment		11,500
Accounts payable		26,440
Interest payable		6,650
Note Payable		380,000
Lease Payable		83,360
Common Stock		160,000
Dividend	23,200	
Sales		398,500
Cost of Goods Sold	188,800	
Other operating expenses	34,200	
Bad Debt Expense	4,970	
Depreciation Expense- Building	10,000	
Depreciation Expense- Equipment	20,000	
Depreciation Expense- Leased Equipment	11,500	
Interest expense	35,010	
Provision For Income Tax	23,505	
Total	<u><u>1,101,420</u></u>	<u><u>1,101,420</u></u>

Table 1-7 Glenwood Multi-Step Income Statement

Glenwood Heating, Inc.		
Income Statement		
For Year Ended December 31, 20X1		
Sales		398,500
Cost of Goods Sold		<u>177,000</u>
Gross Profit		221,500
Operating Expenses		
Bad Debt Expense	994	
Depreciation Expense- Building	10,000	
Depreciation Expense- Equipment	9,000	
Rent Expense	16,000	
Other Operating Expenses	<u>34,200</u>	70,194
Income From Operations		151,306
Other Expenses		
Interest Expense		<u>27,650</u>
Income Before Taxes		123,656
Provision for Income Taxes		<u>30,914</u>
Net Income		<u>92,742</u>
Earnings Per Common Share		<u>28.98</u>

Table 1-8 Glenwood Statement of Retained Earnings

Glenwood Heating, Inc.	
Statement of Retained Earnings	
For Year Ended December 31, 20X1	
Retained Earnings January 1, 20X1	0
Plus: Net Income	92,742
	<u>92,742</u>
Less: Dividends	<u>(23,200)</u>
Retained Earnings December 31, 20X1	<u>69,542</u>

Table 1-9 Eads Multi-Step Income Statement

Eads Heaters, Inc.		
Income Statement		
For Year Ended December 31, 20X1		
Sales		398,500
Cost of Goods Sold		188,800
Gross Profit		<u>209,700</u>
Operating Expenses		
Bad Debt Expense	4,970	
Depreciation Expense- Building	10,000	
Depreciation Expense- Equipment	20,000	
Depreciation Expense- Leased Equipment	11,500	
Other Operating Expenses	34,200	80,670
Income From Operations		<u>129,030</u>
Other Expenses		
Interest Expense		35,010
Income Before Taxes		<u>94,020</u>
Provision for Income Taxes		23,505
Net Income		<u>70,515</u>
Earnings Per Common Share		<u>22.04</u>

Table 1-10 Eads Statement of Retained Earnings

Eads Heaters, Inc.	
Statement of Retained Earnings	
For Year Ended December 31, 20X1	
Retained Earnings January 1, 20X1	0
Plus: Net Income	70,515
	<u>70,515</u>
Less: Dividends	(23,200)
Retained Earnings December 31, 20X1	<u>47,315</u>

Table 1-11 Glenwood Balance Sheet

Glenwood Heating, Inc.		
Balance Sheet		
For Year Ended December 31, 20X1		
Assets		
Current Assets		
Cash		426
Accounts Receivable	99,400	
Less: Allowance For Bad Debts	(994)	98,406
Inventory		62,800
Total Current Assets		161,632
Property, Plant, and Equipment		
Land	70,000	
Building	350,000	
Equipment	80,000	
Less: Accumulated Depreciation- Building	10,000	
Less: Accumulated Depreciation- Equipment	9,000	
Total Accumulated Depreciation	19,000	481,000
Total Assets		642,632
Liabilities and Stockholders' Equity		
Current Liabilities		
Accounts Payable		26,440
Interest Payable		6,650
Total Current Liabilities		33,090
Long-term Liabilities		
Note Payable		380,000
Total Liabilities		413,090
Stockholders' Equity		
Common Stock	160,000	
Retained Earnings	69,542	
Total Stockholders' Equity		229,542
Total Liabilities and Stockholders' Equity		642,632

Table 1-12 Eads Balance Sheet

Eads Heaters, Inc.	
Balance Sheet	
For Year Ended December 31, 20X1	
Assets	
Current Assets	
Cash	7,835
Accounts Receivable	99,400
Less: Allowance For Bad Debts	4,970
	<u>94,430</u>
Inventory	51,000
Total Current Assets	<u>153,265</u>
Property, Plant, and Equipment	
Land	70,000
Building	350,000
Equipment	80,000
Leased Equipment	92,000
Less: Accumulated Depreciation- Building	10,000
Less: Accumulated Depreciation- Equipment	20,000
Less: Accumulated Depreciation- Leased Equipment	11,500
Total Accumulated Depreciation	<u>41,500</u>
Total Plant, Property, and Equipment	<u>550,500</u>
Total Assets	<u><u>703,765</u></u>
Liabilities and Stockholders' Equity	
Current Liabilities	
Accounts Payable	26,440
Interest Payable	6,650
Total Current Liabilities	<u>33,090</u>
Long-term Liabilities	
Note Payable	380,000
Lease Payable	83,360
Total Liabilities	<u>496,450</u>
Stockholders' Equity	
Common Stock	160,000
Retained Earnings	47,315
Total Stockholders' Equity	<u>207,315</u>
Total Liabilities and Stockholders' Equity	<u><u>703,765</u></u>

Table 1-13 Ratio Analysis

Ratio	Glenwood	Eads
Current Ratio	4.88	4.63
Acid Test "Quick" Ratio	3.02	3.24
Debt Ratio	0.64	0.71
Profit Margin Ratio	0.23	0.18
Gross Margin Ratio	0.56	0.53
Return on Total Assets	0.14	0.1
Return on Common Stockholder's Equity	0.4	0.34
Basic Earnings per Share	28.98	22.04

Conclusion

It should be noted that since it is the first year of business for both heating companies, the sample size on profitability and collections for each is somewhat limited and a definite conclusion on the wiser firm in which to invest must be taken with a grain of salt. It is because of this reason that the ratios listed above are very similar in almost every instance. The current ratio and acid test ratio, indicators of short term debt paying ability, are split for both companies, while the profit margin ratio and gross margin ratio are very nearly the same. If a choice has to be made between the two companies, Glenwood Heating's higher ROA (return on total assets), ROE (return on common stockholders' equity), and EPS (all measures of profitability) gives this company the edge. Thus, the smarter investment in Home Heating would be Glenwood Heating, Inc.

CASE STUDY TWO

Molson Coors Brewing Company

Analysis of Income Statement and Notes

Introduction:

The following is an analysis of the consolidated financial statements of Molson Coors Brewing Company for the fiscal year of 2013. Questions marked as A through D concern the nature of income statements in general as dictated by GAAP and the classifications in a multi-step income statement. The remaining questions deal specifically with the income statement of Molson Coors, its statement of comprehensive income, and the notes that are tied to certain line items in both.

Analysis:

- I) The major classifications on a common multi-step income statement are comprised of the following in order:
 - A. **Net sales** are calculated from the sales revenue for the period less any sales discounts, returns, or allowances.
 - B. **Cost of goods sold** is line item calculated from the costs associated with purchasing and preparing inventory for sale
 - C. **Gross profit** is the difference between net sales and cost of goods sold
 - D. **Operating expenses** comprises the expenses that are associated with the core operations of a company, and are often divided into Selling Expenses and Administrative Expenses
 - E. **Operating income** is the difference between gross profit and operating expenses
 - F. **Other revenues and gains** and **Other expenses and losses** are additions to or deductions from net income that are considered non-operating
 - G. **Income from continuing operations before tax** is the difference between operating income and the non-operating revenues and expenses
 - H. **Income tax expense** is a deduction calculated from the effective income tax rate multiplied by the above line item
 - I. **Income from continuing operations** is the difference between the two items above
 - J. **Discontinued operations** includes any losses or gains that come from the discontinuation of divisions of the company or product lines and the related disposals of their assets, net of tax

- K. **Net income** is the difference between income from continuing operations and the total from discontinued operations
- L. **Income attributable to non-controlling interests** includes the income total that is specific to an entity in which the reporting company owns more than 50% yet under 100% or complete control
- M. **Income attributable to controlling interests**, the difference between the two items above, is the net income specific to the reporting entity and its operations alone

II) GAAP requires that companies provide income statements with classifications with the intention of reducing fraudulent practices by businesses; by increasing the need for specificity in financial statements, companies like Molson Coors have less capacity to cheat or leave certain items off the books that would affect their financial standing. The specific nature of the income statement also aids external users such as potential investors in getting a closer look at a company's core operations, and, on a basic level, see where money is coming from and where the company is spending it.

III) Persistent income can be closely tied to the idea of quality of earnings, and is an income source that can be reasonably assumed to continue in the future. For Molson Coors Brewing Company, persistent income leads to higher quality of earnings because it is dependable, recurring, and consistent from period to period and can give confidence to potential investors that business operations will continue to be profitable.

IV) Comprehensive income, which is either presented after net income in one or two statement format, includes all sources of gain or loss that would be materially affected by the changes in fair value. In other words, comprehensive income includes net income but also all gains and losses that affect stockholders' equity, or gains and losses which effectively "bypass" net income. The most common example of comprehensive income is the unrealized holding gain on trading securities, a gain of which is warranted by the incessant changing of prices of

stocks. These gains and losses are understandably volatile, so they must be shown separately from net income.

V) Molson Coors begins its condensed income statement by listing the account title “Sales” then deducts Excise Taxes to produce “Net sales.” In this particular instance, the difference between Sales and Net Sales as mentioned is the Excise Tax on shipments of beer, which is not the norm for an income statement; usually, an income statement deducts contra Sales accounts such as Sales Discounts and Sales Returns and Allowances to reach the Net Sales figure. As mandated by the SEC, excise taxes must be presented as a percentage of Net Sales; this would explain why all contra accounts are pre-included in the Sales account for a simplification of Sales after the mandatory excise tax.

VI) According to Molson Coors own notes to financial statements, the Special Items included charges and benefits that the business did not believe to be indicative of its core operations although were not necessarily infrequent in occurrence. These special items mainly included charges from restructuring (involving the termination of employees) and restructuring of agreements that subsequently affected intangible assets. The Special items section seems to be reported on a separate line due to the unusual events that substantiate it, which Molson Coors itself describes as “not indicative of [their] operations.” One such item, impairment or asset abandonment-related loss, seems to be differentiated from Discontinued Operations in the fact that it occurred from the discontinuation in a certain area, the UK, rather than an industry-wide discontinuation. I think that these items’ classification as a operating expenses is incorrect, however; operating expenses should be matched to the core operations of a company which Molson Coors specifically relates the special items are not.

VII) While I stated above that I do not necessarily agree with the classification of the “Special items” as operating expenses, they have a closer association to the core operations of Molson Coors than do the items in “Other income (expense), net.” For instance, Molson Coors had gains in the “Other income” account that

came from the sale of investments or partial ownerships in professional sports organizations like the Colorado Rockies and the Montreal Canadiens. “Other expenses” in this account were items like losses from the movement of foreign currency on foreign instruments or investments (an uncontrollable economic consequence) which have less to do with the actual sale of beer than do the “Special items” section, which at least includes the abandonment of operating assets.

VIII) The comprehensive income in 2013 attributable only to Molson Coors brewing company (and not its subsidiary companies or “non-controlling interests”) in millions, was \$765.4. The net income for the same year attributable to Molson Coors was \$567.3. The difference between net income and this figure is Other Comprehensive Income, which is comprised of gains or losses whose fair value is fairly volatile and thus difficult to report in the initial calculation of net income. Unrealized gain or loss on security holdings (essentially the income from the changing price of securities) is a commonly cited example, while Molson Coors largest contributor to Total Comprehensive Income is “Pension and other postretirement benefits.”

IX) The effective tax rate for Molson Coors in the fiscal year of 2013 was 12.8%, which is a result of deductions from the corporate tax rate of 35% coming from federal tax benefits, the effect of lower foreign tax rates where the company has operations, and other unrecognized benefits.

Conclusion

As Molson Coors is a company whose main operations deal in the sale and distribution of alcohol, this case study brings a taxable item I had previously not dealt with in the form of an excise tax. It would be interesting to see about the excise tax on Molson Coors’s beer sales and how it might vary from state to state. Additionally, the analysis of the special items section and its accompanying notes was particularly enlightening because this section was composed of items I had not yet seen and did not know existed prior to

this point. For instance, the inclusion of the line item “Termination fees” had to do with the reduction of pensions in certain areas of Molson Coors’s business along with the benefits given out upon firing for employees. This is a small “dirty” but necessary part of business operations that still must be included without bias or emotion in a company’s financial statements.

CASE STUDY THREE

Pearson PLC

Analysis of Receivables

Introduction:

For this particular case study, a series of questions is presented in order to elicit an analysis of one company's receivables. In this instance, the company in question is Pearson PLC, a British conglomerate that publishes textbooks and provides education services for customers worldwide, which is headquartered in London. The financial statements of Pearson, although adhering to the United Kingdom version of GAAP, were a bit unfamiliar to me upon first cursory reading, as many accounting "Britishisms" exist within, such as the use of periods instead of commas when denoting a number with several digits or the account title of "Provision for Bad and Doubtful Accounts" for what most U.S. companies refer to as an Allowance for Doubtful Accounts (normally a provision has to do with the withholding of money for income taxes). Also of note is the use of a Provision for Sales Returns account title within Pearson's financial statements; although I was previously unexperienced with this concept, it makes logical sense that a company would want to get an estimate of how much merchandise would be returned in the coming period in order to give a better realizable value of receivables.

- I) An account receivable is a promise by a buyer to pay in cash for a good or service previously rendered within a short period of time, typically thirty to sixty days, with the end of the accounting period or a year (whichever is longer) being the ultimate time limit (as accounts receivable is a current asset). Other names for this particular current asset include Trade Receivables or simply just Receivables.

- II) The main difference between accounts receivable and a note receivable is that a note receivable usually takes the form of a promissory note, and its main difference from an account receivable is that the debtor is required to pay accrued interest on the note.

- III) A contra account is an account that has the opposite normal balance of the account to which its tied and is supposed to reduce the balance of said normal account. Examples of this include Sales Returns and Allowances and Sales

Discounts (contra revenue accounts) for the regular account of Sales, or Allowance for Doubtful Accounts (a contra asset account) which is supposed to reduce Accounts Receivable. The two contra accounts that Pearson presents use the nomenclature common to the United Kingdom financial statements, and are Provision for Bad and Doubtful Accounts and Provision for Sales Returns. It should be noted that financial statements in the US use the word “provision” when discussing income taxes. The first contra account Pearson uses is Provision for Bad and Doubtful accounts, which comes from an estimation by Pearson as to how much of its accounts receivable will be uncollectible by the end of the year and reduces Trade Receivables. Provision for Sales Returns comes from an estimation of the value of goods customers will return in the coming year, and it should be noted the actual sales returns during the period reduce the final balance of the Provision. It appears Pearson uses an ageing schedule of Trade Receivables to estimate the amount of receivables it should consider uncollectible. The estimation used here increases the balance of Provision for Bad and Doubtful Accounts, while the estimation of returns increases Provision for Sales Returns. As mentioned, actual sales returns reduces the balance of Provision for Sales Returns, while the outright write-off of an account reduces the balance of Provision for Bad and Doubtful accounts while simultaneously reducing the Trade Receivable account.

- IV) The percentage of sales procedure for estimating bad debt is fairly simplistic in that it involves using a pre-determined rate or percentage applied to the sales as they are made and as Receivables are accrued. This percentage comes from a company’s past experiences of collecting receivables and allows an easy and timely way to estimate what amounts will be uncollectible. The aging-of-accounts procedure, which is the method used by Pearson’s accountants, separates out the receivables based on how long they have remained uncollected, with the longer period of time meaning a higher percentage that can be considered uncollectible. Obviously, the beginning balance of the Provision/contra accounts must be known, while the estimation will increase the balance and a write off of the bad

debt will reduce the balance. I think that the aging-of-receivables method provides the best window into how much of the receivables a company will actually be able to collect, as the longer the passage of time the less likely a debtor will make due on their promise.

- V) The majority of sales on credit are eventually collected, and the majority of customers do eventually pay; thus, an allowance for doubtful accounts deals with the exception, not the standard. If a customer has to have its account completely written off, the creditor will be extremely hesitant to do business with them again and the debtor’s credit rating will take a severe blow. For this reason, customers with fairly poor credit history will be given a hard look before business is done, and if a note receivable is the form of payment the interest rate will most likely be higher than one for a customer with good credit. A wise manager must be selective to whom he or she extends credit.

Provision for Bad and Doubtful Accounts			
		72	Beginning balance
Exchange differences	5	26	Income statement movements
Utilised	20	3	Acquisition thru business combination
		76	Ending balance

VI)

Beginning and ending balances are self-explanatory, while the exchange difference line item can be attributed to the original provision estimate being made with a currency with lesser value. Income statement movements comes from the actual estimation of uncollectible amounts for the year, while “utilized” comes from write-offs of accounts. Acquisition through business combination has to do with Pearson absorbing a subsidiary company’s uncollectible receivables.

	Bad and Doubtful Debt Expense	26	
	Provision for Bad and Doubtful Accounts		26
	Provision for Bad and Doubtful Accounts	20	
VII)	Trade Receivables		20

Bad and doubtful debt expense is an income statement account, while Provision for bad and doubtful accounts and Trade receivables are balance sheet items. As an operating expense, the provision for bad and doubtful debt expense will appear under Selling or Administrative Expense.

		Provision for Sales Returns	
		372	Beg balance
	Actual sales returns	443	425
			Estimated sales returns
VIII)		354	End balance

Sales Returns		425	
Provision for Sales Returns			425
Provision for Sales Returns		443	
Trade Receivables			443

The provision for sales returns account appears on the balance sheet as a contra receivables account, while sales returns appears on the income statement as a contra revenue account. Estimated sales returns appears on the income statement as a contra revenue account, and reduces the balance of sales revenue.

		Gross Trade Receivables	
	Beginning balance	1474	20
	Sales	5624	443
			5216
	Ending balance	1419	
IX)	Trade receivables	5624	
	Sales		5624
	Cash	5216	
	Trade receivables		5216

Conclusion:

As the T-account and accompanying journal entries in IX) indicate, Pearson PLC does a passable job of making cash collections on its Trade Receivables. Using the gross trade receivable figures from part h), the trade receivable turnover for Pearson for the period ended December 31, 2009 would come out to be 3.89, effectively indicating that Pearson collects on its average trade receivables almost four times a year. For comparison, the digital publisher Informa PLC (also headquartered in the UK with a similar market cap to Pearson PLC) had a accounts receivable turnover ratio of 4.51 in 2016^A, perhaps indicating that Pearson is a touch behind industry standard in terms of collecting on receivables.

CASE STUDY FOUR

Error Adjustments to Ending Inventory

Introduction:

For this case study, a theoretical situation is presented where I am supposed to instruct an accounting student on a particular problem. I have chosen to present a situation where a particular company has taken a physical count of its inventory at period's end yet there are still adjustments that must be made. These adjustments will be made not only to the ending inventory account, but also accounts payable and net sales ending balances.

Problem Presentation:

Dimitri Company, a manufacturer of small tools, provided the following information from its accounting records for the year ended December 31, 2017.

Inventory at December 31, 2017 based on physical count	\$ 1,520,000
Accounts payable at December 31, 2017	1,200,000
Net sales (sales less sales returns)	8,150,000

Additional information is as follows.

1. Included in the physical count were tools billed to a customer f.o.b. shipping point on December 31, 2017. These tools had a cost of \$31,000 and were billed at \$40,000. The shipment was on Dimitri's loading dock waiting to be picked up by the common carrier.
2. Goods were in transit from a vendor to Dimitri on December 31, 2017. The invoice cost was \$76,000, and the goods were shipped f.o.b. shipping point on December 29, 2017.
3. Work in process inventory costing \$30,000 was sent to an outside processor for plating on December 30, 2017.
4. Tools returned by customers and held pending inspection in the returned goods area on December 31, 2017 were not included in the physical count. On January 8, 2018 the tools costing \$32,000 were inspected and returned to inventory. Credit memos totaling \$47,000 were issued to the customers on the same date.
5. Tools shipped to a customer f.o.b. destination on December 26, 2017, were in transit at December 31, 2017, and had a cost of \$26,000. Upon notification of receipt by the customer on January 2, 2018, Dimitri issued a sales invoice for \$42,000.
6. Goods, with an invoice cost of \$27,000, received from a vendor at 5:00 p.m. on December 31, 2017, were recorded on a receiving report dated January 2, 2018. The goods were not included in the physical count, but the invoice was included in accounts payable at December 31, 2017.
7. Goods received from a vendor on December 26, 2017, were included in the physical count. However, the related \$56,000 vendor invoice was not included in accounts payable at December 31, 2017, because the accounts payable copy of the receiving report was lost.

8. On January 3, 2018, a monthly freight bill in the amount of \$8,000 was received. The bill specifically related to merchandise purchased in December 2017, one-half of which was still in the inventory at December 31, 2017. The freight charges were not included in either the inventory or in accounts payable at December 31, 2017.

The format used in the solution below was mandated by the question, and the student is instructed to prepare end-of-year adjustments for the accounts Inventory, Accounts Payable, and Net Sales.

Solution

	Inventory	Accounts Payable	Net Sales
Initial Amounts	\$ 1,520,000.00	\$ 1,200,000.00	\$ 8,150,000.00
Adjustments--increase (decrease)			
1	NONE	NONE	(40,000)
2	76,000	76,000	NONE
3	30,000	NONE	NONE
4	32,000	NONE	(47,000)
5	26,000	NONE	NONE
6	27,000	NONE	NONE
7	NONE	56,000	NONE
8	4,000	8,000	NONE
Total Adjustments	195,000	140,000	(87,000)
Adjusted amounts	\$ 1,715,000.00	\$ 1,340,000.00	\$ 8,063,000.00

- For the first inventory issue, the sale of the goods should not be recorded until the goods have actually been shipped (as stipulated by f.o.b. shipping point norms).
- Since the goods were bought f.o.b. shipping point by Dimitri and were already in transit, they should be recorded in Dimitri's ending inventory and the accounts payable line item credited.
- This inventory is still in process and belongs to Dimitri, so it should be included in the ending inventory balance.
- Even though the goods had not been inspected, they are considered returned and now a part of Dimitri's inventory and should be recorded as such. It will be determined later how much of the inventory is ready to be sold. Additionally, the sales from these returns will be decreased by the amount of the Sales Returns contra account in this question, \$47,000.
- F.o.b. destination shipping terms indicate that these in transit goods should still be in Dimitri's inventory as of December 31 as they are fronting the shipping expenses. The sale will be recorded when the goods reach the customer.

6. Accounts payable here is correct, yet inventory must be adjusted for the amount not included in the physical count.
7. Accounts payable must be increased here because the inventory was received.
8. Accounts payable must be credited the full \$8,000 to account for the shipping costs, while ending inventory will only be adjusted for half of this amount. This is because in the perpetual inventory system, the costs of freight are tied up in the inventory of goods, and only half of the goods in question were still on company grounds as of the time of adjustment.

Conclusion:

The balance of the ending inventory account for a company has serious ramifications on the reporting of a firm's earnings for the year of the mistake and subsequent periods. That is why it is vital a company be able to distinguish what should be included, in title, in its inventory of goods and what should not, as this balance will go into determining the cost of goods sold for the year. Overstating or understating ending inventory can have an effect not only on net income, but also on the tax provisions a company includes on its income statement and a two-year effect on retained earnings (assuming the error only occurs once, if not the impact on retained earnings can continue on into the future). While RFID technology has made tracking individual goods for larger companies much easier and more efficient, it has also allowed an increase in the volume of inventory moved to and from a warehouse.

CASE STUDY FIVE

Palfinger AG

Analysis of Property, Plant, and Equipment

Introduction:

This particular case was an analysis of the property, plant, and equipment accounts for Palfinger AG, which is an Austrian manufacturer that produces heavy machinery with hydraulics for lifting, loading, and transportation. To do so, I was given certain parts of the company's financial statements that delved into the additions, government grants, and disposals from year to year of fixed assets. Additionally, I was given information on the accumulated depreciation accounts for different fixed assets to aid in my analysis of the property, plant, and equipment. Interestingly enough, Palfinger's accountants elected to use straight-line depreciation on the company's plant assets.

Analysis:

- I) Based on the provided description, Austrian company Palfinger seems to be in the business of producing heavy-duty equipment (including various types of cranes, forklifts, and work platforms) to be used in construction, agriculture, and basically any industry where "heavy lifting" is involved. For this reason, Palfinger would most certainly have large plant sites that would be used in the actual manufacturing of these complex machines and vehicles. Inside some of these plants, one could draw a comparison to a modern car company's factory that uses a substantial amount of robotics to assemble the large construction equipment; the cost of these automated builders would be included in PPE. For constructing large industrial equipment, it would also make sense for the company to include a good deal of the equipment it sells in its PPE as it would utilize forklifts and related machinery for manufacturing purposes. Obviously, for long-term factories and manufacturing sites, Palfinger would include a good deal of land in its property, plant, and equipment.

- II) The number €149,990 on the balance sheet represents the value of the fixed assets listed in the question above (and more) reported at historical cost with accumulated depreciation on the plant assets (using straight-line depreciation) already accounted for and taken out of the account. It should be noted that

Palfinger's reporting of net long-term assets rather than using an Accumulated Depreciation account deviates from the GAAP principles which I have used up until this point. Additionally, in the notes section, Palfinger points out that if an asset from PPE is marked for sale at a later date, the fixed asset is still included in PPE although it is reported at the value at which it can be sold, less selling costs, and is no longer depreciated after the decision is made for sale. Palfinger makes no specific mention of different types of equipment in the notes to the financial statements. Instead, equipment seems to be lumped together with "fixtures and fittings" so one can guess at the functionality of the equipment Palfinger owns.

- III) Sometimes, a firm must construct its own buildings and plants, and during the period of construction it would be incorrect to charge the costs of the building to the actual buildings account. These self-constructed assets would instead have their costs charged to an account, under GAAP, called Construction in Process. Palfinger, being an Austrian company, uses the account title "Prepayment and assets under construction" to denote plant assets (usually buildings, but also equipment and other assets with long construction periods) that are currently being worked on. The reason that such assets would have no accumulated depreciation would be that they are not ready to be put into use, thus the asset's "useful life" has not begun and the item is not ready to begin depreciation. Buildings and items in construction in process/assets under construction are differentiated by whether or not they are in use for the company. This reclassification of the "Prepayment and assets under construction" in 2007 is Palfinger recognizing this total amount actually beginning to be put into the operations of the company. This reclassification is spread out amongst "Land and Buildings", "Plant and machinery", and other miscellaneous equipment, indicating that plant assets that were previously under construction had been completed and were now ready to begin their useful lives. At this point, depreciation would begin on these assets.
- IV) Palfinger depreciates its property and equipment on a straight-line depreciation

method, adding a fixed amount to depreciation expense and accumulated depreciation every year. Straight-line depreciation, by definition, depreciates fixed assets on a basis of time rather than a basis of usage. With this in mind, while plant sites and buildings in use by the company would reasonably be depreciated using straight-line (due to consistent usage), the manufacturing equipment used to build the company's inventory should instead be depreciated with a method that takes into account how often the equipment is used. The obvious benefit of using straight-line depreciation as a company would be the simplicity, efficiency, and consistency of calculating a yearly depreciation rate, while the trade-off would most certainly be an over-simplification of the actual cost allocation of what could be heavily-used equipment. The strengths of the activity method of depreciation are the weaknesses of straight-line, and vice-versa. The company must gather information on the inputs or outputs attributable to the fixed assets in question and base depreciation expense from this, which can be a timely process.

- V) As explained in the notes to Palfinger's financial statements, the renovations and value-enhancing modifications to property, plant, and equipment are capitalized and subsequently depreciated as part of the asset to which they improve or enhance. The useful life of the corresponding asset might be increased if the enhancement is substantial, and the cost of the capitalized renovation would be allocated over this new useful life. There are two alternative accounting treatments for these enhancements. The first is the substitution approach, where the company would remove the cost of the old asset (before improvements) from its books and replace it with the cost of the new and improved asset. A second alternative, if the improvement adds to the useful life of the asset in question, is to debit the cost of the enhancement to accumulated depreciation. This method essentially recovers some of the accumulated depreciation charged to the asset.
- VI) Analysis of property, plant, & equipment and accumulated depreciation:
 - a. The purchase of new property, plant and equipment in fiscal 2007 is €40,444. This comes from the "additions" column but does not include self-constructed

assets.

- b. Government grants would total €733 and are deducted from “Land and buildings” and “Plant and machinery.” This deduction comes from IAS 20, which allows for a company to accept nonmonetary government grants in the form of various items considered property, plant, and equipment, and the companies are allowed to deduct the value of these grants from PPE accounts.
- c. The cost of the the PPE disposed in 2007 would be €13,799 with accumulated depreciation of €12,298, leading to a net book value of disposed PPE to be €1,501.

VII) Since the cash proceeds the company received, €1655, were higher than the book value of the asset being disposed, €1501, Palfigner would recognize a gain of €154 on its income statement. In economic terms, the company sees a nonmonetary increase in its value because it is disposing assets at a value higher than what is recorded for the same assets in its balance sheets.

VIII) Depreciation schedules for “Other plant, fixtures, fittings, and equipment”

a.

Year	Depreciation Expense		Book Value	
			€	10,673.00
2007	€	1,880.00	€	8,793.00
2008	€	1,880.00	€	6,913.00
2009	€	1,880.00	€	5,033.00
2010	€	1,880.00	€	3,153.00
2011	€	1,880.00	€	1,273.00

b.

		Rate on Declining					
2007	Book Value, Beg Year	Balances	Depreciation Expense	Accumulated Depreciation	Book Value, End Year		
2008	€ 10,673.00	40%	€ 4,269.20	€ 4,269.20	€ 6,403.80		
2009	€ 6,403.80	40%	€ 2,561.52	€ 6,830.72	€ 3,842.28		
2010	€ 3,842.28	40%	€ 1,536.91	€ 8,367.63	€ 2,305.37		
2011	€ 2,305.37	40%	€ 922.15	€ 9,289.78	€ 1,383.22		

IX) Assume that the equipment from part VIII) was sold on the first day of fiscal 2008 for proceeds of €7,500. Assume that Palfinger's accounting policy is to take no depreciation in the year of sale.

a. Assuming straight line depreciation:

Cash	7500	
Accumulated Depreciation	1880	
Loss on disposal	1293	
Equipment		10673

Above is the journal entry Palfinger would use to record the sale of the equipment. It should be noted that the proceeds from the sale were lower than the book value of the equipment, resulting in a loss on the income statement from the disposition of the assets. As the Equipment, Accumulated Depreciation, and Cash accounts are all asset accounts, the effect on the income statement for Palfinger would be the loss on the disposal and the depreciation expense recognized in 2007, which take away from the company's net income by a combined amount of €3,173. However, no information is provided about the revenue from operations that this equipment brought about so the income statement effect of the asset may be farther reaching than this.

b. Assuming double-declining balance depreciation

Cash	7500	
Accumulated Depreciation	4269.2	
Gain on disposal		1096.2
Equipment		10673

The journal entry to record the sale of equipment is shown above. The most obvious change from the sale under the assumptions of j.i. is that the use of double-declining method of depreciation sees the company realize a gain on the disposition of the equipment as the book value is much lower after the first year than under straight-line depreciation. This gain is offset by the depreciation expense that would have been recognized in 2007, totaling €4,269.20. When the

two numbers are added, the net loss due to depreciation and disposition of the equipment comes out to be €3,173, which is the exact same amount as would have been expensed under the straight-line depreciation method.

- c. The first year's income statement would see a lower net income under the double-declining balance method, as more cost of the asset is allocated at an earlier date, raising depreciation expense. The next year, the depreciation expense is lower for double-declining balance and straight-line depreciation expense remains the same. As I stated above, the net "loss" after the sale would ultimately be the same on the books as the gain seen from double-declining balance method would ultimately be offset by the higher depreciation expense in the first two years.

Conclusion:

As I mentioned in the introduction, the accountants employed by Palfinger AG elected to use straight-line depreciation to allocate the costs of the company's various plant assets. I thought this was interesting to the point of erroneous, as one would believe a manufacturing company such as Palfinger would want to use an activity method of depreciation. Such a method of depreciation would see the cost of fixed assets be dispersed with the main driver being production or hours used, rather than the time assumption utilized by straight-line depreciation. This would allow for heavy equipment to be depreciated on the basis of its usage, with a highly-used machine being depreciated more rapidly. Just like the case that involved the publishing company Pearson, I find it interesting to look at the accounting methods employed internationally. One such difference was noted in the questions above, as self-constructed assets (which are capitalized in the Construction in Process account in America) for Palfinger are debited to the "Prepayments and assets under construction" account, which harkens back to the "Provision for bad and doubtful accounts" utilized by Pearson.

CASE STUDY SIX

Volvo Group

Analysis of Research and Development

Introduction:

Research and development is a very necessary evil for any manufacturer that looks to seriously compete, especially in the saturated market that is automobile sales. Continuing with the theme of the previous case, I look here at a foreign-based company in the Volvo Group with the focus being on the way its accounting department handles the costs of research and development. The majority of R&D costs are expensed under FASB, while Volvo is headquartered in Sweden and thus follows the principles of IAS, which is shown in the following questions.

- I) According to IAS 38, any expenditures that will reasonably produce future economic benefit or revenues such as new production methods, newly-designed software, and new products will be capitalized as an intangible asset. The research and developments that fail to meet the criteria of economic feasibility are charged to income as an expense, however. Thus, the costs included in the SEK 13,193 would be expenditures in the research of new potential (yet ultimately scrapped) products and new models of software or systems that did not have high enough functionality to be put into use by Volvo. This could include new but flawed navigation systems for its cars or automated manufacturing units that ended up being discontinued. It should be noted that no intangible asset arising from Research can be capitalized, so the costs of this RnD expense account will be projects that were fairly far along in their design.

- II) There is a fine line drawn in IAS 38 between Research expenditures and Development expenditures. Costs related to the research phase will never be capitalized and are always expensed, and if a company is unable to differentiate costs between research and development the entirety of the expenditures will be expensed. Even if an intangible asset is considered to be in the development phase of its lifecycle, it must past a few criteria set down by IAS 38 in order to be capitalized. Volvo must first consider the technical feasibility of the potential asset, or, in other words, if it works well enough to be used internally or sold to customers. Volvo must also have the intention of using or selling the asset, and

must have the ability to do so. Most importantly of the factors considered by Volvo, however, is if the asset will produce economic benefits in the future. An example of an asset in the development phase for Volvo would be a new, lightweight chassis (a prototype) or new paint for its vehicles.

- III) For an intangible asset such as design costs of new software, a company like Volvo must make a decision on the period it sees capitalized research and development expenses amortized. For RnD that has to do with software development, the most obvious choice for an amortization period would be the average life of related software before they are effectively rendered obsolete by new systems. This would effectively give a useful life to what is considered an intangible asset. With Moore's Law in play, Volvo most likely has to reduce the period of amortization for these product and software development costs as the time for a product to become obsolete gets shorter and shorter all the time.
- IV) I honestly believe that the IFRS guidelines for research and development costs make more logical sense than those of U.S. GAAP. I like the fact that IAS calls for a company to separate what it considers research costs and costs of actual development. By capitalizing development costs, a company is quite literally making an "investment" in this new intangible asset, while expensing research allows for the vast majority of projects that do not actually make it to development to be quickly accounted for. It could be argued that not all intangible assets in development will not all be put in to use or sale by the company, thus capitalizing them will overstate the functioning assets of a company. However, I believe that if a design team is far along enough in a project, there will at least be residual benefits from the project even if it is scrapped. Thus, it is worth adding to the value of the balance sheet.
- V) The amount of capitalized product and software costs, net of accumulated depreciation of SEK 13,739, is SEK 11,409. This value is included with other

assets in the “Intangible asset” line item on the balance sheet.

Capitalized Product and Software, Net			
Beginning balance	12381	3126	Amortized
Amounts Capitalized	2602	448	
Ending Balance	11409		

VI) Volvo’s Product and software development intangible asset

(in SEK millions)	2007	2008	2009
Product and software development costs capitalized	2057	2150	1858
Total R&D expense on the income statement	11059	14348	13193
Amortization of previously capitalized costs (included in R&D expense)	2357	2864	2830
Total R&D costs incurred during the year = 1 + 2 -3	10759	13634	12221

- a. In 2007, Volvo capitalized 19.12% of total R&D costs and 15.77% and 15.2% for 2008 and 2009 respectively.

VII) The following information relates to Navistar for fiscal year end October 31, 2007 through 2009.

(in US \$ millions)	2007	2008	2009
Total R&D costs incurred during the year, expensed on the income statement	375	384	433
Net sales, manufactured products	11,910	14,399	11,300
Total assets	11,448	10,390	10,028
Operating income before tax	(73)	191	359

(in SEK millions)	2007	2008	2009
Net Sales, Industrial Operations	276,795	294,932	208,487
a. Total Assets, from Balance Sheet	321,647	372,419	332,265

- b. The relationship for Navistar between total R&D costs and net sales comes out to be 3.18%, while this same relationship for Volvo is calculated as 6.04%. Obviously, the figure for Volvo is almost double that of Navistar. Navistar is an American company, which, if following GAAP, must expense all research and development costs; the discrepancy between the two numbers could stem from Volvo simply spending more relative money on research and development or from Navistar capitalizing more of these costs because they reach a marketable product. The nature of these two companies products might also help to understand the difference between the percentages, as Navistar is a holding group for manufacturers of commercial and school buses, which, on average, would require less R&D than personal automobiles that must continuously be updated year to year in order to keep up with competitors.

Conclusion:

The idea of assigning the correct balance sheet or income statement location to the development of an intangible asset is inherently a tricky problem for accountants. That is why the policy on such matters vary across the globe, with IFRS and GAAP having different means and tests to properly expense or capitalize these research and development costs. While FASB seems to have a three phase test for capitalizing these assets, as I said, I believe the simplicity of the IAS standards makes a good deal of sense. Differentiating these costs on the basis of research and then development makes sense, as projects that are in the development phase are much more likely on their way to becoming revenue-producing assets.

CASE STUDY SEVEN

Data Analytics Tool Analysis

Introduction:

In today's business world and the era of Big Data, to be up to date on accounting information systems is to fall behind; companies should see information technology as a continuously updated process that it should always seek to improve. Microsoft applications and software suites are some of the best on the market, which means it comes as no surprise that they are so widely used in the business world. For the purposes of data analytics and the necessity to make useful business decisions from incredibly diverse and voluminous data, Microsoft provides Power BI for a number of different devices.

History and Purpose of the Microsoft Power BI

Microsoft Power BI is a cloud-based service that allows for data visualization for firms to critique and analyze data in more understandable formats. Power BI can connect to a multitude of big data sources and pull valuable data from them; it then presents this data in a form that a company or individual using Power BI could use to recognize pertinent trends and even make business decisions. The integration of data sources is a large part of what makes Power BI a widely known data analytics tool; the tool can draw data from local and foreign excel spreadsheets, in-house databases, and even other cloud-based sources. Digital dashboards included in Power BI allow for a firm to track key processes and provides indicators and alerts when anomalies occur. Power BI allows for queries in a manner similar to traditional database management systems, although the process is simplified and streamlined as users can ask questions in natural language, such as "Show me accounts receivable by customer". Also in the vein of traditional databases, Power BI allows businesses to create UML diagrams with the associations mapped to various resources, agents, and events in their business model. The number of data visualization models included in Power BI is vast, and the software allows for users or firms to upload their own custom visualizations. A firm may not find any of the built-in visualizations (bar graphs, heat maps, matrices, KPIs, etc.) useful for its decision-making purposes and may need to utilize measures and tables of their own design.

Power BI originally was titled "Project Crescent" when it was first designed by Ron George 2010 and was available for public download in July. Power BI would get its

first paid release as a component of Office 365 in 2013 and was mainly based on Excel add-ins that form somewhat of a skeleton of what the tool is used for today: interactive tables in Power Pivot, queries from Power Query, and, most importantly, data visualizations from Power View. At the time, it was lauded for its 3D graphic representations and its natural language queries. Power BI was released as a standalone product in 2015 and in its current form can be accessed from a multitude of different devices (including mobile Android and iOS devices) in any location.

Skills Needed to Utilize Microsoft Power BI

The most apparent and critical skill one would need to make best use of this Power BI suite for business decision making is the ability to interpret and draw conclusions from extensive tables and visualizations. To this end, it would be prudent for a user of this tool to have some background and proficiency in the Excel add-ins and programs it is based on, such as being able to work with Pivot tables and basic Excel charts and diagrams. Traditionally, an operator in a database management system such as Microsoft Access or MySQL would need to be versed in the query language of SQL in order to form advanced queries and reports, yet Power BI's ability to perform queries with natural language inputs eliminates the need for this.

Ultimately, the biggest requirement for Power BI is critical thinking and data analysis; the Power BI suite automates some of the hardest processes of converting raw data into correlations and relationships. It is up to the user to draw conclusions from the relationships presented.

Implementation Scenarios

Audit

Microsoft Power BI extends its usefulness with the inclusion of audit functionality that can be utilized for both discretionary and mandatory financial reporting. Since external audits are now required by the Sarbanes-Oxley Act, the three scenarios discussed below all deal with discretionary auditing (i.e. managerial or cost accounting).

Seeing Power BI as a potential decision support system, the first and most obvious application of the suite in context of auditing would be the preparation of

financial statements and reports for internal usage to recognize variances in budgets or areas where a company can be made more efficient. This is achieved through the built-in features of Azure Audit logs, which allow said financial reports to be presented in visual form in order to provide a more cohesive and simplified view of data.

Power BI can also be used in the realm of forensic auditing; often times in a larger company some material fraud may present itself when it is audited externally. The auditing tools of Power BI are such that information can be drilled down and filtered from a variety of different perspectives and through different criteria. Forensic auditing often requires financial reports to be viewed in unusual and atypical ways, so the level of specificity allowed in Power BI would be a huge advantage in looking for fraud. Additionally, since Power BI is a cloud-based program, users can use online connectors to take data from XBRL instance documents of external auditors to cross-reference internal and external audits. This cloud-based nature of the suite also allows for nearly unlimited storage of financial information.

In addition to the compliance and operations type objectives described above, another scenario in which Power BI could greatly aid a company is the dissemination of financial data to potential investors. The 10-K's and 10-Q's required by the SEC for publically traded companies are only a fraction of the data released to the public by companies every year, as they are constantly seeking investment and new capital for expansion. Just as the visualizations for data offered by Power BI help those within the firm have a deeper understanding of company operations and financial position, these same tools can help potential investors (most of whom have far less experience with the company's metrics for success) in understanding the makeup of the firm.

Tax

A scenario in which Power BI could aid in the tax accounting area of a company lies in the database design features. By allowing for custom-created databases, a company could save itself time, money, and effort by programming for certain "checks" for deductions. For example, an application control such as a validity check or a limit check could trigger when a certain value is surpassed in a fiscal year that would allow for a

company to take a deduction. This could include contributions to philanthropic organizations and several different depreciation expenses.

Additionally, on a less specific scale, the tools in Power BI are constantly updated to keep up to date with modern tax law, which is integral to a company in the United States where tax law has been in flux as of late. To this end, Power BI has built-in tax brackets and specific rate analysis to best tailor income tax for a corporation.

Another scenario in which Microsoft Power BI could be of use to a company is one in which the corporation is multinational and has to deal with complicated and numerous tax codes in foreign countries. Through the integration capabilities of Power Bi, companies can combine other processes and programs (potentially other tax suites) it has in place for its foreign subsidiaries to provide for the same purpose of rate analysis and finding deductions discussed above. A company could even theoretically use this data in visualization form to map out where and how much it is being taxed in the companies it operates in order to spot areas for increased focus of tax preparation.

Advisory

The realm of deal advisory and mergers and acquisitions provides the most interesting utilization for the software tools of Microsoft Power BI. The most obvious scenario in which the visualization tools in Power BI would be used would be in the conference room when the firm is presenting to potential clients. Power BI not only provides for powerful calculating and querying speed, but the visualization of firm-wide data (especially tailored to hit on key areas for big-time investors) adds a layer of presentation power that generic data analytics suites may not be capable of providing. For instance, a company could present to a firm using easy to understand graphics the increases in revenue filtered by product, layered onto the revenue by region, and potentially even presented in three dimensions. Sometimes the way information is presented to potential clients is far more valuable than what the information is.

Financial statement analysis for a company can be a timely and inefficient process with older software and a multitude of different data entry and storage applications. Luckily, Power BI integrates essentially all pertinent Microsoft Office applications that are used in business to provide for simplicity. A team assigned to provide analysis of the

company's financial statements could thus take statements composed in different processing applications and analyze them all in one place. These data sources can include the basic Microsoft Office applications and also various databases including MySQL, Amazon Redshift, SAP Business Warehouse, and many others.

Valuation of a company is not always a matter of looking at the past and present situation of a company, but also a matter of looking into the future to see where a company might be headed. This forecasting nature of firm valuation presents the perfect opportunity for the visualization tools of Power BI to shine. After the financial statement analysis discussed above is completed, a company has a clearer picture of what predictions it can make about revenue growth and earnings in general. With the built in time value of money and formula design capabilities of Excel and the querying functions of Power BI, users can create models for financial forecasts. Of course, with the use of visualization tools in Power BI, users can also present these forecasts in a visually appealing yet informative way.

Why A Company Should Invest in Power BI

The accounting profession is being called upon today to deal with volumes of data that grow exponentially almost every day. In order to provide valuable services to companies and to avoid being left behind in the information age, an accounting firm must adapt to the high velocity of data being thrown around. At a very base level, the investment should be made in Microsoft Power BI purely to save time and money in the preparation of internal audits and managerial accounting. Before an accounting firm can offer useful services to clients, it needs to make sure it is operating at a level of efficiency only achieved through the implementation of an easy-to-use and fast information system. Power BI, more importantly, can also be integrated into the services that are offered to clients, namely through the financial statement analysis offered up above.

Modern accounting firms need to be able to differentiate themselves through services that go beyond the simple constraints of audit, advisory, and tax. The partnering of an accounting firm and a company should be exactly that: a partnership. Power BI can help define the ways in which accounting firms can achieve this. Larger accounting firms already have special services that aid a company in setting up its information system

framework and controls and educating employees in its use. By consistent use of a powerful database and visualization tool such as Power BI, specialists that work in these service departments of a firm will be better suited to advise companies on the proper implementation of data analytics tools and techniques.

Works Cited

“What is Power BI?” *Microsoft.com*. Microsoft, 2018. Web. Accessed 28 January 2018.

CASE STUDY EIGHT

Analysis of Long Term Debt

Introduction:

For a large corporate organization such as Rite-Aid, one of the best ways to secure capital and cash for operations outside of the issuance of stock is the issuance of long-term debt. The issuance and sale of long term debt such as bonds and certain notes is so common that it has created its very own fixed income market where people buy and sell bonds at high velocity. To have a deeper understanding of what one is buying when they purchase a company's bond, I delved into the financial statements of Rite Aid Corporation to see the various type of debt the company sells stock exchanges and through other avenues of capital acquirement. Something I had not yet done before this particular case was the imputation of effective interest rates in a reverse manner when only given certain bits and pieces of information regarding the liabilities on a company's balance sheet. This "reverse-engineering" of the indenture of bonds and notes was greatly beneficial in getting a rounder understanding of the debt instruments overall.

Analysis:

- I) The fundamental difference between secured and unsecured debt can be found in the names of the two types of loans; secured debt involves the putting up of collateral by the borrower (debtor) that is to be seized if he or she fails to make good on the terms of the debt. This collateral is usually an asset owned by the debtor that can include most fixed assets, and, in the case of a mortgage bond, real estate. Collateral trust bonds are another example of secured debt in which the collateral put up by the borrower comes in the form of stocks and bonds of other entities. Unsecured debt or "debenture bonds" are not backed by any sort of pledge of assets from the debtor, and have a higher degree of inherent risk than secured debt. Because of the varying levels of risk between the two types of debt, it would be wise for Rite Aid to track the cash payments on its bonds payable to avoid defaulting and risk losing valuable long term assets that may be pledged in the indenture of the bond.

- II) When debt is “guaranteed” the comparison can be made that the debt is “insured” by a third party that pledges to take over the responsibility of payment of the loans of a borrower if said borrower is unable to pay. The various subsidiaries Rite Aid Corporation have provided the guarantee for the debt of the company as a whole, which is to say the individual drug stores owned by Rite Aid Corporation are ultimately responsible for the long term debt. The notes to the financial statements make it clear that Rite Aid Corporation is itself a holding group without any operations, so its debt is guaranteed by the stores it owns.
- III) Senior debt could be considered another differentiation along the lines of secured and unsecured debt. For all intents and purposes, senior debt is thusly named because it takes precedence over “junior” debt that is usually unsecured, where the importance of paying off the senior debt is more pressing to the company. In the event of bankruptcy, the company would have to pay off the senior debt before working on its junior obligations. A fixed-rate bond or note in the context of this portion of Rite Aid’s financials implies that the debt has a single, static coupon or stated interest rate upon which it must pay interest (typically semiannually for long term debt). This is in juxtaposition to a floating rate bond, where the coupon rate is variable and may change every interest payment period. Finally, the “convertible” bond issued by Rite Aid indicates that, at the bondholders’ discretion, the creditor may convert the remaining receivable of the bond into a certain amount of the issuer’s stock or equity.
- IV) On many occasions, the coupon or stated interest rate on long term debt is predicated on the bond being secured or unsecured. An unsecured bond implies higher amounts of risk, and thus the interest rates for these bonds would be higher and require larger coupon payments by the debtor. Interest rates may also fluctuate based on the term length of the note or bond, as a bond with a later maturity date than another issued both on the same day may come with a lower stated rate. Additionally, the interest rates charged on borrowing may be determined by Rite Aid’s previous borrowing activities with that particular entity. If Rite Aid has never borrowed from a given lender before, the lender would be hesitant to give a lower interest rate on a bond without any kind of prior dealings.

V) According to Note 11 entitled “Indebtedness and Credit Agreement,” Rite Aid has total debt of \$6,370,899 as of the balance sheet date (February 27, 2010). The amount of this due within the coming fiscal year can be found under “Current maturities of long-term debt and leasing financing obligations” which has a total of \$51,502 supposed to be paid in the next year. On the company’s balance sheet itself, the total for “Long-term debt, less current maturities” is to the tune of \$6,185,633, and if one were to add the totals listed for “Lease financing obligations, less current maturities” (\$133,764) and “Current maturities of long-term debt and lease financing obligations” (\$51,502) they would arrive at the same value listed in the notes to the financial statements: \$6,370,899.

VI) Consider the 7.5% senior secured notes due March 2017.

- a. The principal or face value on these notes would be \$500,000. One would arrive at this number by looking at the columns for 2009 and 2010 that list the carrying value of debt for the company and noticing the \$500,000 total for both years, with, in conjunction of the absence of any unamortized discount or premium listed, tells the reader that these notes were issued at face value.

b. Journal entry when notes are issued:

Cash	500,000
Notes Payable	500,000

c. Annual interest expense journal entry:

Interest Expense	36,250
Cash	36,250

d. Journal entry at note’s maturity:

Notes Payable	500,000
Cash	500,000

- VII) Consider the 9.375% senior notes due December 2015. Assume that interest is paid annually.
- The face value or principal of these notes, as stated in the note, is \$410,000, while the carrying value as of the balance sheet date is \$405,951. These values differ because the discount on the note has yet to be completely amortized and thus there is still a balance in this contra account, reducing the net amount of bonds payable.
 - Rite Aid paid cash interest on this note to the tune of \$38,437.50, which is calculated multiplying the stated/coupon rate of 9.375% by the face value of the note.
 - The interest expense recorded by Rite Aid for the period ended February 27, 2010 would total to \$39,142.50, which includes the previously mentioned cash interest of \$38,437.50 and the amortization of the note's discount of \$705.
 - Journal entry to record interest expense on these notes for fiscal 2009:

Interest Expense	39,142
Discount on Notes Payable	705
Cash	38,438

- VIII) Consider the 9.75% notes due June 2016. Assume that Rite Aid issued these notes on June 30, 2009 and that the company pays interest on June 30th of each year.
- These notes were issued at an effective annual rate of 10.12%.
 - Entry at issuance of notes:

Cash	402,620
Discounts on Notes Payable	7,480
Notes Payable	410,000

- Amortization schedule for these notes:

Date	Interest Payment	Interest Expense	Bond Discount Amortization	Net Book Value of Debt	Effective Interest Rate
June 30, 2009	--	--	--	\$402,620	10.12%
June 30, 2010	\$39,975	\$40,750	\$775	\$403,395	10.10%
June 30, 2011	39,975	40,828	853	404,248	10.10%
June 30, 2012	39,975	40,915	939	405,187	10.10%
June 30, 2013	39,975	41,010	1035	406,222	10.10%

June 30, 2014	39,975	41,115	1136	407,362	10.10%
June 30, 2015	39,975	41,230	1255	408,617	10.10%
June 30, 2016	39,975	41,357	1382	409,999	10.10%

d. Interest expense accrual entry:

Interest Expense	27,167
Discount on Notes Payable	517
Interest Payable	26,650

CASE STUDY NINE

Analysis of Shareholders' Equity

Introduction:

The role of the finance department in a company at the very surface level is raise capital for the corporation in a cost-effective way. On a much deeper level, however, the finance department must balance its capital responsibilities with a secondary goal of keeping the company's stock price relatively high and assuaging any shareholder doubt that may arise about corporate strength. The company studied below is Merck & Company, Inc., one of the largest pharmaceutical companies in the world originally founded in the United States in 1891. In addition to a wide array of over-the-counter and prescription drugs sold by the company, Merck was responsible for developing the first vaccine for mumps.

The economic performance as a whole of Merck should be given a review before delving into the equity portion of the company. The most obvious sign of concern for the company was a sizable difference in net income between the years 2006 and 2007, with a reduction of 26.13% from year to year. With sales higher in 2007 and administrative expenses even lower, the sizable drop in net income can be attributed to the settlement of the Vioxx case. Merck was forced to pay \$4,850,000,000 in damages to litigants in the trial after recalling the pain medication Vioxx, which was shown to increase the chance of heart attacks and cardiovascular problems.

As of 12:30 PM, 19 February 2018, the market price for Merck & Co on the New York Stock Exchange is \$56.29, with a market capitalization of \$153 billion. The market capitalization of Merck has increased from 31 December 2017 by more than \$25 billion, showing that the Vioxx settlement was more of a minor hang up to the pharmaceutical conglomerate rather than a company-ending event. The following case is an analysis of the various parts of Merck's equity section, including market capitalization at balance sheet date, shares held in the company's treasury, and dividends paid to common shareholders.

I) Consider Merck's common shares

- a. Merck is authorized to issue 5,400,000,000 shares.
- b. Merck has 2,983,508,675 shares issued as of the balance sheet date.

- c. Common stock on the balance sheet is reported at par value, with any excess of par upon issuance included in some sort of paid-in capital account, which is “Other paid-in capital for Merck. Thus, when one multiplies the number of shares issued (2,983,508,675) by the par value (\$0.01) they arrive at the value listed for common stock (\$29,800,000). Merck’s financials are reported in the millions of dollars, so they have listed “29.8.”
- d. There are 811,005,791 shares of common stock held in the treasury of Merck as of the balance sheet date.
- e. With 2,983,508,675 shares issued and 811,005,791 shares held in the treasury, the difference between the two amounts gives the shares outstanding (in the hands of shareholders). This number is 2,172,502,884 shares outstanding.
- f. The market capitalization of a company can be calculated by multiplying the number of shares outstanding by the market price per share at the date of calculation. In this instance, the market capitalization of Merck at December 31, 2007 would be \$125,157,891,100.

II) The payment of dividends to common stockholders boils down to the most fundamental objective of finance departments in companies: raising capital. The payment of a dividend is often seen to potential investors as a positive sign of company security and strength, and additionally could be a window into how a company’s management feels about its future earnings. This is why companies in their nascence often do not distribute dividends to shareholders, as these funds are instead reinvested in the company to spur further growth. Because of this perceived positive correlation between company strength and dividend distribution, the share price of a company’s stock will often rise upon payment of dividends.

III) A company will often buyback its own shares in an effort to drive up both price and demand for its stock. Even if a company has positive earnings and a good deal of tangible assets, its stock can be undervalued if there is too much outstanding; purchasing treasury stock allows a company to drum up the price for the shares remaining after the buyback to allow for a lower cost of capital. The fewer amount of

shares outstanding also improves perceived balance sheet performance, as a company's Earnings Per Share (EPS) will inevitably increase with fewer shares outstanding. Finally, for a company that issues a steady dividend, a buyback of shares will reduce the number of common stockholders that receive a dividend.

IV) Journal entry summarizing Merck's common dividend activity for 2017:

Retained Earnings	3311
Cash	3307
Dividends Payable	3

V) As explained in the financial statements, Merck uses the cost method for recording the purchase and resale of treasury stock. Under this method, the value of the treasury stock is recorded as the market value of the stock at the date of buyback. Selling treasury stock below cost will result in a reduction of paid-in capital or retained earnings (if there is no prior balance in paid-in capital from treasury stock) and selling the treasury shares above cost will result in an increase in paid-in capital from treasury stock.

VI) During fiscal year 2007, Merck bought back 26,500,000 shares of its own stock. The total amount paid for the 26,500,000 treasury shares totaled \$1,429,700,000, which comes out to be \$53.95 per share. This cash flow would still be lumped in with the other financing activities on the cash flow statement, and the statement of cash flows for Merck even has a line item entitled "Purchases of treasury stock" to prove it.

VII) Traditionally, treasury stock should always be considered a contra account to paid-in capital and common stock on a balance sheet, effectively reducing shareholder's equity. Treasury stock cannot be seen as an asset when it is technically a claim for a portion of company assets held in the company's treasury. Including it as such would overstate the value of a company's assets and its equity.

VIII) Ratio analysis

1—5 in Millions	2007	2006
Dividends paid	3,307.3	3,322.6
Shares outstanding	2,172.5	2,167.8
Net income	3,275.4	4,433.8
Total assets	48,350.7	44,569.8
Operating cash flows	6,999.2	6,765.2
Year-end stock price	\$57.61	\$41.94
Dividends per share	\$1.52	\$1.53
Dividend yield (dividends per share to stock price)	2.64%	3.65%
Dividends payout (dividends to net income)	1.01	.749
Dividends to total assets	6.84%	7.45%
Dividends to operating cash flows	47.25%	49.11%

CASE STUDY TEN

Analysis of Marketable Securities

Introduction:

Each publicly traded company presents a unique and challenging decision to be made about how its financial information should be presented. Of particular note are investment holding groups or investment banks, which face the dilemma of classifying their investment securities. On one hand, these larger banks and firms are typically multifaceted enough to include several different institutional investor services such as brokerage and consultation, but at the same time the investment revenue within these companies is such that the question arises whether securities should still be labeled as such or as inventory (seeing how this would be the main “wares” of such companies).

One such holding company is State Street Corporation, an old and well-respected investment banking umbrella organization with headquarters in investing Mecca of Boston. State Street offers brokerage and management services along with securities finance services, yet nearly fifteen percent of what it deems as “Fee revenue” comes from realized and unrealized gains on its trading securities alone, while in 2012 it saw investment revenue from its debt securities totaling three billion; to say that the buying and selling of securities is a large part of its business model would be an understatement. Yet State Street opts to classify its securities in the traditional “trading, available-for-sale, and held-to-maturity” model for the sake of simplicity.

Analysis:

I) Trading securities

- a. Trading securities are financial instruments, be they debt (fixed income items such as corporate or government bonds, certificates of deposit) or equity (common stock, preferred stock, and some types of derivatives) that a company has intention and capability of selling within a year or less, making them current assets. The purchase of trading securities is recorded at fair value, and with trading securities comprised of bonds any discount or premium must be amortized, while an adjustment to adjust the cost basis of the securities to market value must be made at the end of every reporting period, where this difference between cost and fair value is recorded in income and also in an adjunct account

in the current asset section (typically entitled Fair Value Adjustment but the specific name of the account depends on the company).

- b. The journal entry to record interest receipt on debt trading securities purchased at par would be as follows:

Cash		1
Interest Revenue		1

If these securities were instead purchased at a premium or discount, common practice is to amortize the premium or discount in the same entry recording interest.

The journal entry to record receipt of a cash dividend in trading securities of a company in which the investor has little influence would be as follows:

Cash	1	
Dividend Revenue		1

The journal entry if the market value of trading securities increased by \$1 during the reporting period is as follows:

Fair Value Adjustment		1
Unrealized holding gain or loss - income		1

II) Available for sale securities

- a. Securities that are classified as available-for-sale fit neither the classification of held-to-maturity nor trading, as a company keeps its options open about future actions with the securities. For this reason, the market adjustment of available-for-sale securities sees any unrealized holding gain or loss go to the equity section of the balance sheet, as opposed to the income statement (the default location for gains or losses on trading securities). Accounting for available-for-sale securities in the form of debt sees any premium or discount amortized each reporting period.
- b. A company recording \$1 of dividends or interest received from securities available-for-sale would make the following entry:

Cash		1
Dividend Revenue		1

The journal entry to record an upward fair value adjustment, assuming no previous balance in the Fair Value Adjustment account, would be as follows:

Fair Value Adjustment	1	
Unrealized holding gain or loss - equity		1

III) Held-to-maturity securities

- a. Held-to-maturity securities are securities that, as the name implies, the investor intends to hold or retain until the investment matures. For this reason, held-to-maturity securities are always in the form of debt, as bonds and other fixed-income assets have a maturity date, while equity securities are never classified as held-to-maturity because stocks sold on the open market never truly “mature.”
- b. Because it is the management’s intention to hold these securities until they mature, there is no record kept of changes in fair value. Thus, there would be no entry to record any unrealized holding gain or loss.

IV) Consider the account “Trading account assets”

- a. The balance listed in “Trading account assets” as of December 31, 2012 is \$637,000,000. State Street makes specific mention of its various types of securities in Note 1, stating that trading account assets are reported at fair value; it is safe to assume that this \$637 million is a reflection of the market value at the balance sheet date.
- b. Assume that the 2012 unadjusted trial balance for trading account assets was \$552 million. For its trading securities, State Street does not use a separate valuation account to adjust to market value. Additionally, it is stated in the notes to the financial statements that both realized and unrealized gains or losses for these securities go to the account titled “Trading services” on the consolidated income statement. Thus, the journal entry for this adjustment, in millions of dollars, would be as follows:

Trading account assets	85	
Trading services		85

V) Consider the balance sheet account “Investment securities held to maturity”

- a. The amount listed on the balance sheet for this account as of December 31, 2012 is \$11,379,000,000. The market value of the investment securities held to maturity has a material difference from the presented amortized cost value; within Note 4 and parenthetically presented in the balance sheet, the market value of these securities is given as \$11,661,000,000.
- b. The amortized cost of the held to maturity securities for State Street Corporation is \$11,379,000,000. Amortized cost for investment securities represents the original acquisition price of the investment and any amortized discount or premium up until that date. For a security bought at a discount, the amortized cost at a later date will be higher than acquisition cost, and for a security bought at a premium, the amortized cost will be lower than the original price.
- c. The difference between amortized cost and the market value of debt securities represents the amount of unamortized discount or premium. In other words, this difference represents the discrepancy in market value and amortized cost at the balance sheet date. As a general rule, when market interest rates rise, the price of debt securities falls and vice versa; thus, since fair value is higher than amortized cost in this instance, market interest rates have fallen since purchase of the securities.

VI) Consider the balance sheet account “Investment securities available for sale”

- a. The balance in this account at years’ end comes out to be \$109,682,000,000. This balance sheet figure, as disclosed by the notes, is the fair value of the available for sale securities.
- b. Netting the gains and losses in the gross unrealized gains and losses columns gives a net unrealized gain of \$1,119,000,000.
- c. There is a net gain of \$55,000,000 realized from the sale of available for sale securities. This gain appears on the income statement under “Net gains (losses) from sale of investment securities” and would also appear on the cash flow statement assumedly under cash flows from operating activities.

VII) State Street’s statement of cash flows for 2012 shows the following line items in the “Investing Activities” section relating to available for sale securities (in millions)

Proceeds from sales of available for sale securities	\$5, 399
Purchases of available for sale securities	60, 812

- a. The journal entry State Street made to record the purchase of available for sale securities for 2012:

Investment Securities Available for Sale	60,812
Cash	60,812

- b. The journal entry State Street made to record the sale of available for sale securities for 2012:

Cash	5399
Unrealized holding gain	67
Investments in AFS	5411
Realized gain on AFS	55

- c. The cost basis would be found by subtracting the realized gain from the cash proceeds of the sale, producing a book value of \$5,344 million. A discrepancy exists between this value and the value presented in the financial statements because of the unrealized holding gain that had to be removed from the books during the sale.

CASE STUDY ELEVEN

Deferred Income Taxes

Introduction:

Accounting for the purpose of financial statement preparation and accounting for the purpose of filing tax returns are two very different methods. For starters, GAAP allows for a company to use the accrual or cash method to recognize revenue, and the majority of publicly traded companies use the former. The IRS is primarily concerned with the movement of cash outflows and inflows, thus individuals and corporations are taxed on cash income and are allowed deductions for cash expenses. The discrepancies between the two methods inevitably lead to timing differences between the books of a company and what it turns into the IRS. These temporary differences that lead to future taxable amounts and future deductible amounts will be discussed later.

ZAGG is short for “Zealous About Great Gadgets” and is the name of a consumer electronics and accessories manufacturer headquartered in Midvale, Utah. Although it has a multitude of accessory products for various electronic devices, ZAGG is best known for its flagship product, the “invisibleSHIELD” casing and cover for touchscreen phones. In 2011 ZAGG acquired audio accessory company iFrogz in an effort to bolster growth and variety in product line. The total acquisition price of the company came out to be \$96.2 million, yet the cash held by iFrogz acquired by ZAGG netted this number down to an investing cash flow of \$47 million. Surprisingly, ZAGG still posted a higher net income in 2011 than in 2012 despite such a large acquisition.

Analysis:

D) Book income, in this instance, is equivalent to pretax financial income, which is the income that is reported in the income statement that is considered income before taxes (often called EBT). This number is reported to provide the most useful description of earnings for potential investors and creditors. For ZAGG, this line item is entitled “Income before provision for income taxes” and ZAGG reported \$23,898,000 for this number in fiscal 2012. While book income is calculated following GAAP guidelines, taxable income is determined using the protocol provided by the IRS, and the difference between the two types of income arises from differences in the inherent accrual method used in the financial statements and the cash method required for tax reporting.

- II) Permanent tax differences are discrepancies between taxable income and pretax financial income that will never be reversed and thus do not give rise to deferred tax liabilities or deferred tax assets. Common examples of permanent tax differences include interest received on state and municipal bonds and fines and expenses resulting from law violations.
- III) Temporary tax differences are differences between the tax basis of assets or liabilities of a company versus the basis reported to the public, which can lead to future taxable amounts (which will increase taxable income at a later date) or future deductible amounts (which will decrease taxable income in a future period or periods). The most common example of future taxable amounts for accrual reporting companies arises in credit sales, where the company will report revenue in one period but not actually receive payment until the next period; taxable income will be higher in the period where cash is received even though revenue has been recognized previously. An example of a future deductible amount is a warranty expense that sets up a warranty liability without actually paying anything for repairs, maintenance. When a company actually makes payments or distributes inventory at a later date, this will reduce taxable income.
- IV) A statutory tax rate is the tax rate imposed on individuals and corporations (with consideration given to income levels and filing status) before any deductions or deferred tax liabilities/assets are considered. With the passage of the new tax code in 2017, the U.S. corporate income (statutory) tax is 25.7%.
- V) The effective tax rate is the tax rate a company actually realizes upon paying taxes after deductions and other consideration; it can be calculated by dividing actual tax expense by pretax financial income.
- VI) The most general view of the existence of deferred tax assets and deferred tax liabilities come from basic principles of accounting; it is commonly accepted that a company should recognize an expense when it is incurred, even if that expense

requires no cash exchange at the date of recognition. This is the case for income tax expense, which companies recognize in its entirety with deferred tax assets reducing the amount of expense or deferred tax liabilities increasing it. These deferred income taxes will be paid at a later date or used to reduce payments in future years, yet the expense must still be recognized in the period incurred. This is why the income taxes payable account is a more accurate depiction of the actual cash to be paid in taxes for a given period, while income tax expense is better for reporting purposes, as investors and creditors will seek to have the most complete and updated amounts on the income statement. The best place to find explanations behind why the deferred tax assets and deferred tax liabilities arising from temporary differences between accrual and cash method is at the source, which is in the material disseminated by the Federal Accounting Standards Board.

The reasoning behind virtually all audit practices in various companies' financial statements has origins in the FASB's Accounting Standards Codification, with the ASC for income taxes titled ASC 740. Within ASC 740, the FASB outlines everything an accountant should need to know about recognition, measurement, and presentation of income taxes. In context of deferred income taxes and this case, temporary differences are located in numerous locations in the accounting standards; there are temporary differences created from exchange rates between foreign currency, the conversion of a company from a C corporation to a S corporation, the loss of nontaxable status either through conversion or acquisition, and even (very pertinent to today's tax world) enacted changes in tax laws. Of particular difficulty in managing deferred tax assets is when a company has foreign subsidiaries that must prepare financial statements using the local statutory tax rate and then convert these financials into GAAP for consolidation, having to convert the temporary differences that arise between bases of assets and liabilities between two or more international tax laws and rates.

Clearly, deferred tax assets and deferred tax liabilities play a very integral role in tax accounting. In fact, in ASC 740-10-1, one of only two primary objectives of tax accounting is listed as "To recognize deferred tax liabilities and assets for the future tax consequences of events that have been recognized in an entity's financial

statements or tax returns.” So another very clear reason why companies do not simply report their current tax bill as income tax expense has to do with a principle of tax accounting called administrative convenience, where tax calculation must be as efficient as possible while still retaining its integrity. By keeping track of future tax benefits or liabilities, companies make it easier not only on themselves but also on the IRS in determining the actual tax payment required each year. In an even simpler sense, companies factor in the effect of deferred tax assets and deferred tax liabilities because they are required to.

VII) Deferred income tax assets and deferred income tax liabilities result from future deductible amounts and future taxable amounts, respectively, and serve to effectively reduce income taxes paid in a future period (in the case of deferred income tax assets) or increase the taxes paid in the future (for deferred tax liabilities). Deferred income tax assets appear on the balance sheet as non-current assets, while deferred income tax liabilities appear as non-current liabilities. An example of a deferred income tax asset would be the difference in expense basis for a warranty expense; a company will initially record warranty expense by setting up a warranty liability, with actual cash payments coming when needed by the customers. Even though the company has recognized an expense in the current year, cash will not be involved until future years and then recognized by the IRS as an expense; this timing difference creates a deferred tax asset that can be used to reduce income tax expense in the current period and income taxes payable in the future. Another example of a deferred tax asset is created from unearned revenue that could come from subscription sales, insurance sales, or any other sales or service revenue that requires upfront payment by the customer and subsequent recognition of revenue by the seller either through the passage of time or performance satisfaction. In this instance, this cash prepayment would have to be recognized as taxable income when filing taxes, yet in future years when revenue is recognized on the books there will be less taxes to pay as taxable income will be lower without the inclusion of the initial cash payment. Inversely, the most common cases of deferred tax liabilities arise for companies that make sales on credit, which happens with great frequency. In fact, for ZAGG, the accounts

receivable account, even net of allowances for doubtful accounts, makes up approximately 26.5% of total assets, which should come as no surprise as it does business primarily in consumer discretionary/electronics. When a company makes a sale on credit, it recognizes revenue despite receiving no cash, an act that will inevitably increase taxable income in future years as ZAGG or other sellers collect on accounts receivable and bring in cash. This future taxable amount leads to a deferred tax liability that will increase income tax expense in the current period and increase income taxes payable in future years.

VIII) A deferred income tax valuation allowance is a contra account that effectively reduces the value of a deferred income tax asset. This should be recorded when it seems unlikely (ASC 740 gives the likelihood of anything over fifty percent) that a company will be able to recognize a portion or the entirety of the deferred tax benefit of a deferred tax asset in future periods, and should be given special consideration if a company has experienced several years of operating loss in a row, which may weaken its chances of using a deferred tax asset. The allowance account should be monitored at the end of every accounting period to see if its needs adjustment.

IX) The journal entry that ZAGG recorded for the income tax provision in fiscal 2012.

Income tax provision	9393	
Net deferred tax asset	8293	
		Income taxes payable
		17686

X) On the balance sheet, deferred tax assets and deferred tax liabilities are usually netted and this number goes to either the noncurrent assets or noncurrent liabilities section. FASB now requires companies to report the composition of these deferred tax effects in notes to the financial statements. It is interesting to note that deferred tax liabilities actually went down for ZAGG in 2012, meaning it paid off some of its future taxable amounts without incurring any additional tax liabilities. The journal entry to show the composition of the net deferred tax asset would be as follows:

Income tax provision	9393
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Deferred tax asset	8002	
Deferred tax liability	292	
Income taxes payable		17686

XI) Although different interpretations of effective tax rate exist, the most common figure is calculated by dividing income tax expense or income tax provision by earnings before taxes or, in ZAGG's financials, income before provision for income taxes. The provision for income tax in 2012 is 9393 while income before provision for income taxes is 23,898, so the effective tax rate for ZAGG in 2012 would come out to be approximately 39.3%. This material difference between the corporate (statutory) tax rate and the effective tax rate arises because some of the permanent differences between pretax financial income and taxable income mentioned previously.

CASE STUDY TWELVE

Revenue Recognition

Introduction:

The matter of timing and determining the amount of revenue to be recognized is a constantly changing subject in accounting codification, and certainly carries great importance to companies when it comes time to report quarterly or year-end sales and resulting earnings. Behind the actual net income and earnings numbers, revenues for a company can be one of the most integral and easily spotted indicators of financial health. The increasing size and complexity of some of the companies, especially electronics and software companies, has led to difficulty in some companies determining how certain performance obligations or agreements should be recognized as revenue when they are satisfied. Apple Inc. is a perfect example of this inherent complexity, as it offers a wide array of tangible hardware products and electronics, music and other media services (iTunes, Apple Music, Apple TV), and software that goes along with tangible products purchased (such as its operating systems). One of the largest facets of the new amendments to accounting standards codification has to do with identifying separate performance obligations within a contract and allocating sales prices to these obligations. An issue for Apple has to do with how many different services it provides and the number of products it sells that are often dependent on future upgrades that aren't always free of charge. As much as a company like Apple would like to report the highest possible revenues every quarter, it might be limited by the period in which revenue should rightfully be earned. An analysis of the criteria Apple uses to judge revenue recognition and the proper way in which FASB codifies follows.

Analysis:

- I) Revenues are funds received (usually from customers) resulting from the satisfaction of a performance obligation or from the sale of goods. Revenues are the main operating cash inflow for a company and can be used to reasonably predict future cash flows, as this is the main business that a company is engaged in. This is in juxtaposition to gains, which arise from incidental transactions, such as the sale of long-lived equipment at more than book value or the sale of securities that have

appreciated in value since purchase. Since gains are incidental, they are not good predictors of future cash flows.

II) The new standard of ASC 606, *Revenue from Contracts with Customers*, uses a whole new approach for the basis of revenue recognition. This new approach is based on the assets and liabilities created when contracts between companies or entities are made. Revenue is recognized in an amount that reflects the consideration a company expects to receive, where this revenue is recognized in the period when the performance obligation is satisfied. There are five general steps to recognizing revenue that a company can follow using this new standard. The first step is identifying that there is indeed a contract with a customer, followed by identifying the separate performance obligations within said contract. Thirdly, a transaction price must be determined of the contract as whole, followed by an allocation of this transaction price amongst the separate performance obligations previously identified. Finally, revenue can be recognized when each of these separate performance obligations has been met. The specific accounts dealing with revenue recognition are mainly Sales or Service Revenue, Accounts Receivable, Cash, Unearned Revenue, and to a lesser extent Sales Discounts and Sales Discounts and Allowances.

III) Within its most recent 10-K, Apple declares its plan to adopt the new revenue recognition standard in the first quarter of 2019 using a full retrospective transition method. The new Topic 606 has not changed the four main criteria that Apple uses to judge when to recognize revenue; according to the notes to its financial statements, Apples recognizes revenue when “persuasive evidence of an arrangement exists, delivery has occurred, the sales price is fixed or determinable and collection is probable.” This is Apple’s version of the five steps in recognizing revenue outlined by ASC 606, as “persuasive evidence of an arrangement” indicates that the company has identified the existence of a contract, while the fixed nature of the sales price and its collectability are the determination of the transaction price. Finally, the ultimate delivery of the products by Apple is a satisfaction of the performance obligation to the customer, as in theory when the customer paid Apple for said products this created a liability of unearned sales revenue, which is satisfied when delivery of the

products is complete. Apple also allocates the transaction price to separate performance obligations when it enters into these “contracts” with purchasers of its products; certain software upgrades have a portion of the transaction price allocated to them for future service.

- IV) Multiple-element contracts, also referred to as multiple deliverables or multiple-element arrangements, occur when the contract between customer and company (Apple in this case) calls for the delivery of services or products over a period of time, often staggered across time. Since there are different components to such sales, a company can have trouble deciding when to recognize revenue when using accrual-based accounting, such as a phone company that sells the actual hardware provided by the company (the phone, tablet, or device itself) and then sells a service contract or provides service on a monthly basis to the customer. For Apple, these multiple deliverable arrangements come in the form of selling the hardware it manufactures (MacBook’s, iPhones, iPads, etc.) and then marketing software upgrades to the users of said products. Since this software is often required for the continued functionality of the tangible products, Apple has developed a hierarchy to estimate selling prices of these separate parts of contracts in order to allocate revenue accordingly. At the highest tier is vendor-specific objective evidence of fair value (the deliverable is sold separately and is the price actually charged for the separate component), third-party evidence of selling price, and finally the best estimate of the selling price.
- V) Incentives for reaching or surpassing a certain threshold for sales are very common in the workplace and in the sales environment in general, with managers often being responsible for reporting sales performance to corporate. These incentives can include simple items like bonuses and monetary prizes or even extended vacation time or paid vacations. Thus, it is in the manager’s best interest to record the highest sales levels possible, and an avenue to do so would be in the way revenue is recognized. For a manager at an Apple location, one could choose to recognize revenue in advance from future deliverables that can be safely assumed to be needed for continued

functionality of devices when in actuality this revenue needn't be recognized at the time.

VI) The songs sold on iTunes to end users are considered third-party content by Apple (as they are owned by the artist or the record company). In the notes to its financial statements, Apple mentions that the revenue recognized from these song sales comes from a commission that it charges on each song sold, so the correct period in which revenue must be recognized would be when the song has entered the "library" of the customer and they have unrestricted use of it (this is usually a very brief, if not instantaneous, process). According to the accounting standards codification, this is the correct way to recognize revenue from commissions, as Apple recognizes said revenue in the period in which the commission arises from a sale.

VII) Under the new ASC 606, the asset-liability approach is used in order to properly identify the period in which revenue should be recognized. For the tangible products that Apple sells such as headphones, power adaptors, backpacks, and even chargers for all of its devices, this revenue shouldn't be recognized when cash is exchanged but rather when title of the goods have been transferred to those who paid for it. For these products sold in Apple store, revenue recognition is straightforward, as ownership is transferred in person as soon as the customer has paid for the accessories. Online sales are different, however, as delivery must be made of the products before Apple can recognize revenue. This is a fact that Apple itself includes in its criteria for judging revenue recognition and is thus in congruence with the satisfaction of performance obligation requirement set forth by ASC 606 which advises to "Recognize revenue when (or as) the entity satisfies a performance obligation."

VIII) Revenue is recognized from a sale to a third-party reseller in India as soon as ownership of the iPods has transferred to the reseller, and the revenue is listed as the gross amount billed.

IX) Within the notes to its financial statements, Apple mentions that it records the sale of gift cards as deferred revenue, which is “relieved” when the card is used or redeemed by the holder of the card. Thus, revenue, to Apple, is truly recognized at a future date when the customer uses the card. This is in accordance with the amendments of ASC 606, which calls for companies to recognize sales revenue upon the alleviation of deferred revenue created by the purchase of the gift card. ASC 606 has made certain changes to the way “breakage revenue” is accounted for (the amount of estimated uncollectible revenue from gift card sales) yet Apple makes no mention of this in its financials.