CASH FLOW STATEMENT SPREADSHEET MODELING CASE USING A PROTOTYPE SYSTEM DEVELOPMENT PROCESS

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ABSTRACT

U.S. GAAP and IFRS standards both require a cash flow statement that presents operating, investing and financing net cash flows (FASB, FAS 95; 1987; IASB, IAS 7, 1992). Although students are exposed to the cash flow statement in beginning accounting courses and then study the cash flow statement in more depth in intermediate accounting classes, they still have difficulty preparing the cash flow statement. Spreadsheet modeling is a skill that employers believe is a necessity for students to develop for their accounting careers since spreadsheets are used so extensively in the accounting and business world. This case helps students cement their understanding of the cash flow statement preparation and spreadsheet modeling skills. Using a prototype development process, students build a spreadsheet model that efficiently, consistently, and accurately utilizes proper spreadsheet modeling and validation techniques to process inputs of accrual accounting financial statements and other necessary input data into a proper cash flow statement output. The goal is to have a user friendly, robust cash flow statement spreadsheet model that can be generalized to most companies' financial data. A few accounting professionals who are former students who actually completed the assignment provided feedback for the case. The response was that the case was a valuable learning exercise to help them prepare for the profession and should be continued. One of these former students who is now an audit manager in a large local firm stated, "The project was useful and relevant. It was one of the most real life projects I worked on in school."

INTRODUCTION

Both United States Generally Accepted Accounting Principles (GAAP) and International Financial Report Standards (IFRS) require a cash flow statement providing cash flow information for operating, investing, and financing net cash flows that tie to the overall change in cash and cash equivalents on the balance sheet from one year to the next (FASB, FAS 95; 1987; IASB, IAS 7, 1992). Students often struggle to understand the relationship between the cash flow statement and the income statement and balance sheets which are accrual based financial statements. Accounting instructors and professionals typically agree that preparing a cash flow statement is one of the most challenging accounting problems for students to solve as they start their accounting careers. Accounting firms provide standard spreadsheet cash flow statement models to help their staff efficiently and accurately prepare cash flow statements as a part of required financial statement reports. This article explains a cash flow statement spreadsheet model case and feedback from six accounting professionals who completed the case as students. Each of the professionals is currently working or has worked in public accounting. The author presented the case material to these former student professionals to help them remember the details of the assignment. The professionals were then asked to respond to several survey questions and to provide comments and suggestions for the cash flow statement spread sheet model case.

The spreadsheet cash flow statement model case explained herein has two objectives. The first objective is to help students learn to prepare the cash flow statement using the balance sheet, statement of earnings, and other necessary data and transactions. The second objective is to help students become proficient with spreadsheets as a tool to automate and solve accounting problems or perform accounting functions in the business workplace.

Spreadsheet modeling can be an excellent learning tool for students to learn the concepts and then apply them to business and accounting problems. Borthick et al. (2006) explain that new professionals might be able to perform specific tasks earlier in their careers if they received explicit training in the knowledge structures germane to the tasks. Providing students a cash flow statement spreadsheet model that uses the knowledge structures germane

the cash flow statement preparation process. One of the comments of the professionals, a senior staff in a big four firm, stated about the case:

"The cash flow statement is complex. It is critical that students who pursue an accounting career, especially those seeking a CPA certification, fully obtain a strong understanding of the cash flow statement. The case does a great job breaking down both methods of the cash flow statement as well as the key components to the statements. Further, students must have the ability to apply the understanding to modern software programs. The case requires the student to think critically about the details of the case and apply the knowledge by creating an Excel template."

The rest of the article explains where the cash flow statement spreadsheet model case is placed in the accounting curriculum and what preparation materials are given to students before completing the case. Then the case instructions and data are briefly explained. A grading rubric is provided along with error messages that instructors can use to provide feedback to students. The results of the questions posed to the professionals who completed the case as students are discussed and their comments about the case are presented in the summary, limitations, and variations section.

PLACEMENT OF **CASH FLOW STATEMENT** SPREADSHEET MODEL CASE IN THE **ACCOUNTING CURRICULUM**

This cash flow statement spreadsheet model case is an assignment included in an undergraduate accounting information systems course. Before completing the assignment students complete Microsoft ExcelTM training and test evaluation for beginning and intermediate features for Excel. In addition students are presented cash flow statement principles in Microsoft PowerpointTM slides and an mp4 video, even though students already studied cash flow statements twice, once in beginning accounting and once in intermediate accounting. Further, students have been introduced to the system development life cycle (SDLC) and discussed a prototype approach to computer application development using a Powerpoint presentation. The preliminary design and specification report is tied to the systems preliminary design step. At the same time students are completing the cash flow statement assignment, they are also completing the Systems Understanding Aid (Arens, 2012) which has an Excel workbook with a state-

to the task should help accelerate the acquisition of experment of cash flows, income statement, and balance sheet tise and provide increased efficiency and effectiveness in that are produced from values in the ten column year end worksheet. This case and spreadsheet model could also be included in the intermediate accounting course when studying the cash flow statement.

CASE INSTRUCTIONS AND DATA

The case instructions are presented in Appendix 1. The instructions explain that there are three company data sets which are included in Appendix 2. Students prepare the spreadsheet model using a prototype approach (Harrison, 1985). A prototype development approach is appropriate for development of smaller applications. A prototype approach starts with the process of developing the first iteration (first try) of the model. After completing the first model iteration, the model is evaluated with test data. The developer then finds errors or ways that the model is not complete or working as needed with the test data. An improved model of the first iteration is then developed and tested again. The testing includes the first test data and often includes another set of data so that the model can be tested for the ability of the model to handle a variety of situational data. This development and test process may be repeated many times until the desired model is achieved. The prototype approach for this cash flow model includes an iterative process to use formulas for different company situations and help increase accuracy of the model as well as make it more generic and applicable to different company data sets. The students use at least one company situation with the correct cash flow statement so they can have correct feedback for their spreadsheet model for at least one data set. The three company data sets for the iterative prototype models (O'Keefe, Inc. and High Tech Resources) as well as the final company data set to be handed in as the final cash flow statement spreadsheet model (Instaprint Corporation), are given to the students in a PDF file. The last data set (Instaprint Corporation) is to be handed in as a demonstration of the final model and is to be graded for cash flow numbers, as well as for the system requirement listed in the case instructions.

In addition to preparing a cash flow statement spreadsheet model, students are required to write a short preliminary design or specification report. Students are prepared for this report by a class presentation and discussion of the systems development life cycle (SDLC). The design and specification report helps students justify and then specify the business and computer benefits of the template, as well as the inputs, processes and outputs. This design and specification report helps students understand that the inputs required are an income statement, the beginning and ending balance sheet, and some other necessary transaction and accrual details.

Students are also required to develop a model that uses related to model validity, usefulness, user friendliness and an input section. Any cells, other than labels, outside the input section cannot use typed in values. The sections outside the input section must use a formula, cell reference, lookup, calculation, etc. that changes automatically based on changes in data inputs. Also, the sections outside the input section must have proper protection applied so that the formulas, cell references, lookup, calculations, etc., remain valid for different company situations. Students are also required to present a graph (they can choose any type and any data from the spreadsheet), and provide built in check figures usually using "if statements" to ensure that direct and indirect methods are equal and that overall net cash flows equal the balance sheet change in cash and cash equivalents from the beginning of the year to the end of the year. Students can choose the basic layout such as single versus multiple worksheets, formula versus account/ transaction change analysis.

Use of a spreadsheet modeling approach is not limited to teaching cash flow statement principles. The basic concept of modeling whether, in excel or some other way, could be presented as a model itself for applying the technique to other assignments--including assignments outside of accounting courses. Textbooks use assignments at the end of chapters to enhance levels of learning past knowledge and comprehension, to application and analysis as described in Bloom's taxonomy (see Bloom, 1956). A spreadsheet model can be used to take learning not only to the application and analysis levels as would a textbook cash flow statement assignment, but provides students an opportunity to take learning to the synthesis and evaluation levels. Developing a spreadsheet helps students design, create, modify, and combine their knowledge and comprehension of cash flow statement principles into a useful model for future use. Using a prototype development process and requiring students to use particular excel tools to create a model to solve a complex problem such as a cash flow statement, enables students to reach Bloom's highest level of learning by evaluating whether the model has internal validity (accuracy) and external validity (generalizability to other situations.)

GRADING RUBRIC AND FEEDBACK TO STUDENTS

The grading rubric with error messages for student feedback is included in Appendix 3. This grading rubric applies to the Instaprint Corporation. Students hand in the Instaprint Corporation cash flow statement spreadsheet model as their final iteration of the prototype development process. The Instaprint Corporation cash flow statement values are graded for accuracy. Their preliminary design report is also graded. A large part of the grade is how well their model might generalize to different companies. For example, if students' formulas do not change properly when data inputs are changed, then the spreadsheet model score is reduced. Also if it is hard for a user to follow the formulas that process the accrual information into cash flow basis, the student receives fewer points. If a different company is used for the final cash flow statement case, then the specific values to operating (both direct and indirect methods), investing, and financing activities need to be changed to match the correct cash flow statement numbers for that company.

FEEDBACK FROM PROFESSIONALS WHO **COMPLETED THE CASE AS A STUDENT**

Rather than just use survey questions given to students, the author contacted six supervisor level professionals who completed the case as students. The questions answered by the professionals are shown in Appendix 4. Appendix 4 also shows the summary of the responses. The professionals are currently working in public accounting or have had experience in public accounting with a range of experience from three years to nine years. They include one partner, three manager level (public or industry) and two senior staff accountants. These professionals were contacted personally and agreed to complete the survey.

The professionals answered unanimously that the cash flow statement spreadsheet model assignment should continue to be used both for cash flow statement and spreadsheet modeling purposes. For the question about rating (scale of 1 to 10) the assignment to meet the objective related to learning cash flow principles, three professionals gave a rating of 9 and three gave a rating of 10. For the objective related to learning spreadsheet modeling, one professional gave a rating of 6, another gave a rating of 7, two gave a rating of 9, and two gave a rating of 10. The reasons given for lower rating for spreadsheet modeling stated that the spreadsheet part should include more complex spreadsheet formulas and features such as "vlookup, "sumif statements," etc.

Three of the professionals actually referred to the assignment in their professional career, one of those to help study for the CPA exam. Three of them specifically stated that their firm provided a spreadsheet model to prepare cash flow statements.

SUMMARY, IMPROVEMENTS AND VARIATIONS

Some of the comments from the professionals provide a good summary of the cash flow statement spreadsheet model case and suggest improvements and variations to spreadsheet model could also be used to help highlight the case. One professional stated:

"This case study is a good hands-on project. It is similar to actual cash flow worksheets that I have used in my career. If students can come into the profession with a good working knowledge of cash flow statements, they will be more valuable to the firm or company they work for."

Another former student professional commented:

"This exercise was great in simplifying the cash flows statements. [The assignment] takes something considered to be complex to complete and prepare, then breaks the statement and processing down into pieces that are easy to understand. This assignment really helped solidify the cash flows statement to a point where going into public accounting for the first year I felt confident that I could prepare a cash flow statement."

One of the comments was specific to limitations and improvements related to the spreadsheet objective.

"This was a great project! Keep it up. The only reason I gave a 7 [out of 10] on the financial modeling in Excel is due to the fact that I feel there could be a lot more emphasis put on using some of the more complex formulas like Vlookups and Sumif statements to fill out these statements, as I do now."

As suggested by this professional, instructors can add any other spreadsheet features they want students to learn and apply such as vlookups, conditional formatting, what if analysis, input and output to database and accounting system programs (see Borthick et al., 2013), sorting, subtotals, and macros etc.

Another professional suggested something to improve the objective related to the cash flow statement.

"Overall, I believe this assignment/spreadsheet is useful and functional. I would recommend setting up [the spreadsheet model] a bit differently so students can have a clearer view of the reconciliation of the year-to-year changes in the balance sheet, and where those changes end up on the cash flow statement itself. Also, it may be wise for students to have a clearer understanding of how non-cash transactions affect the cash flow and how those items are reported."

One of the professionals provided the generic cash flow statement spreadsheet model used at his firm. This model, and others used by other firms, could be used as an example for students to use in completing this case in addition to the ones already provided. In addition to using example models obtained from firms, instructors could give students an opportunity to audit the validity of other students' spreadsheet models (see Borthick, 1989). This differences between US GAAP and IFRS cash flow statement guidelines (See Grant Thornton, 2012).

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APPENDIX 1 CASH FLOW STATEMENT SPREADSHEET MODEL CASE INSTRUCTIONS

In this project you will apply some of the principles of system design and implementation to develop a useful cash flow statement model using an electronic spreadsheet. You must prepare a preliminary design or specification report that includes:

- General description of the system both in terms of the business problem and the system aspects.
- Identify the objectives, scope and benefits of the system (both in general what the system will do for solving the problem and what features you have or incorporated into your template. Make sure you

describe the benefits of the cash flow statement for business decision makers.

Identify system Requirements:

- Inputs and source of data (Financial statements. Make sure you have a data section in your spread-
- Processes: (Converting accrual financial data into
- Outputs: (Useable, easy to read cash flow statement

You should design the system so that a user could easily follow the computations of how the inputs are converted into the output values. Your spreadsheet model should have an input section in which you can type in the input data. Any cells, other than labels, outside the input section cannot use typed in values. The sections outside the input section must use some type of formula, cell reference, lookup, calculation, etc., that changes automatically based on changes in data inputs. The template should be very user friendly so that formulas are easy to follow rather than just a collection of cell references. Labels should be used to help identify how cash flow statement formulas are used. Since we are using an electronic spreadsheet, the detailed requirements are somewhat built into the system. For example, you really do not need to specify how many digits, etc., there will be in each column.

1. Prepare a prototype computerized cash flow statement spreadsheet model for O'Keefe Inc. and/or High Tech Resources cases found in the cash flow data PDF file. The solutions for these are provided to you so you will have a complete example to help you check your prototype spreadsheet for accuracy. Your template should use formulas as much as possible, so the template can be used for other cases. Your template should include the Balance Sheet for two years (and the changes), the Income Statement, and other details as the inputs. The cash flow statement should include cash flows from operating activities using the direct method and the indirect method (show both), cash flows from investing activities, cash flows from financing activities, schedule of noncash investing and financing activities, and the net increase (decrease) subtotals for each activity area as well as the grand total for net increase or decrease in cash.

Your spreadsheet prototype model should also include a built in way to check whether or not

- the indirect and direct methods for cash from operations are equal. You should also have a built in method for checking whether the cash flow total amount is equal to the change in cash and cash equivalents on the balance sheet. Finally your spreadsheet should include some kind of graph and also protection on the cash flow formulas and cash flow statement cells, but not on the data input cells. (It is easiest if you put protection on last.)
- 2. Once you have prepared the template for O'Keefe Inc. or High Tech Resources, or both, use the template to complete the cash flow statement for Instaprint Corporation (data included in the cash flow data PDF file). If you have made a good template or model from prototype companies' data, completing the Instaprint Corporation problem should not take very long. However expect some fine tuning to some of the formulas.
- 3. Using the online course system, hand in your work by attaching your Instaprint Corporation cash flow statement spreadsheet model and your preliminary design report files electronically. Name the files with your last name and first initial followed by an underscore and CF for "cash flow."

Assignment Grading							
Points Possible	Earned	Item					
20		Preliminary Design Report					
10		Instaprint Corporation Spreadsheet Is it done? Are the numbers correct?					
10		Operating Activities (Direct Method)					
10		Indirect Method (Reconciliation of Net Income to Cash from operating Activities)					
10		Financing and Investing Activities					
40		Generalizability to other cases, usefulness, user friendliness, readability of cash flow statement, protection, graph, check figures.					
100		Total					

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Aligh Tech Resources Income Statement 2011 (in thousal Sales Set of Goods Sold Gross Profit Operating Expenses Selling Depreciation Expense Bad Debt Expense General and Admin Total Operating income Operating income Other Revenues & Expenses Interest Expense Gain from sale of I. I. Inv.	352,000 (184,000) 166,000 - (3,500) (1,000) (87,600) (92,100)		Use High Tech Resources as prototype for developing y Balance Sheet Assets Current Assets: Cash Marketable Securities	your Cash F 2012	low Statem	Increas	e			
come Statement 2011 (in thousai ales ales ales sot of Goods Sold ross Profit perating Expenses Selling Oberpreciation Expense Bad Debt Expense General and Admin Total Operating Income	352,000 (184,000) 168,000 - - (3,500) (1,000) (87,600)		Balance Sheet Assets Current Assets: Cash			Increas	e			
ales ales ast of Goods Sold orss Frolt perating Expenses Selling Depreciation Expense Bad Debt Expense General and Admin Total Operating Income ther Revenues & Expenses interest Expense Gain from sale of I. T. Inv	352,000 (184,000) 168,000 - - (3,500) (1,000) (87,600)		Assets Current Assets: Cash	2012	2011	(Decrea	se)			
oss tof Goods Sold ioss Prolit pperating Expenses Selling Depreciation Expense Bad Debt Expense General and Admin Total Operating income Other Revenues & Expenses Interest Expense Gain from sale of I.T. Inv.	(184,000) 168,000 - (3,500) (1,000) (87,600)		Current Assets: Cash							
iross Profit perating Expenses: Selling Depreciation Expense Bad Debt Expense General and Admin Total Operating Income Wher Revenues & Expenses Interest Expense Gain from sale of I.T. Inv.	(3,500) (1,000) (87,600)		Cash							
perating Expenses: Selling Depreciation Expense Baad Debt Expense General and Admin Total Operating Income Other Revenues & Expenses Interest Expense Gain from sale of IT. Inv.	(3,500) (1,000) (87,600)			00.000	00.000	50.000				
Selling Depreciation Expense Baad Debt Expense General and Admin Total Operating Income Depreciation Expense	(1,000) (87,600)			88,200	29,000	59,200				
Depreciation Expense Bad Debt Expense General and Admin Total Operating income Other Revenues & Expenses Interest Expense Gain from sale of LT. Inv.	(1,000) (87,600)		Accounts Receivable (Net)	15,000	13,300			Equip Acct		
Bad Debt Expense General and Admin Total Operating Income // Operating Income // Operating Income Interest Expenses Gain from sale of LT. Inv.	(1,000) (87,600)		Inventories	10,500	12,700	(2,200)		beg equip	33,000	
General and Admin Total Operating Income Dither Revenues & Expenses Interest Expense Gain from sale of LT. Inv.	(87,600)		Prepaid Insurance Interest Receivable	2,800	2,000	800		purchase with stock equip	6,000 39,000	
Operating Income Other Revenues & Expenses Interest Expense Gain from sale of LT. Inv.	(92,100)		Total Current Assets	116,500	57,000	59,500	^	purchase with cash	4500	
Other Revenues & Expenses Interest Expense Gain from sale of LT. Inv.								Equip disposal	-3500	
Other Revenues & Expenses Interest Expense Gain from sale of LT. Inv.	75,900		Equipment Less Accumulated Depreciation	40,000	33,000	7,000 (500)		End Bal	40,000	
Interest Expense Gain from sale of LT. Inv.	10,000		Net	30,500	24,000	6,500	^	Acum Depre		
Gain from sale of LT. Inv.								Beg	9000	
	(1,400) 1,000		Long Term Investments	3,000	8,400	(5,400)	x	Deprec exp acum deprec disposa	3500 I -3000	
Loss on sale of Equip.	(500)		Total Assets	150,000	89,400	60,600		Ending Bal	9500	
Total	(900)									
ncome Before Income Taxes	75,000		Liabilities & Equity Current Liabilities					Jnl entry for disposal of		DR C
Provision for Income Taxes (34%)	(18,800)		Accounts Payable	3,500	5,600	(2,100)	x	cash for equip	л счир	-
Net Income	56,200		Accrued Liabilities	-	-	-		Equip dispse		
			Income Taxes Payable	6,000	4,000	2,000	х	acum dep		3000
			Short Term Notes Payable Unearned Revenue			. :		loss on equip		500
			Interest Payable	500	1,000	(500)	х			
			Total Current Liabilities	10,000	10,600	(600)				
Other Details for Cash Flow Statement: Depreciation Expense	(3,500)		Notes Payable Long-term Total Liabilities	8,000 18,000	12,000 22,600	(4,000) (4,600)	X			
Common Stock Issued for Equipment	6,000		Total Liabilities	10,000	22,000	(4,000)				
Cash payed on Long-Term Notes Payale	(4,000)		Stockholders' Equity							
Cash from Sale of Treasury Stock Cash Purchase of Equipment	5,000 (4,500)		Common Stock Paid in Capital	55,000 16,000	50,000 15,000	5,000 1,000				
Cash from sale of Long Term Investments	6,400		Retained Earnings	66,000	11,800					
Proceeds from sale of Equipment			Treasury Stock (less)	(5,000)	(10,000)	5,000				
Cash Paid for Dividends	(2,000)		Total Stockholders Equity	132,000	66,800	65,200				
Bad Debt Exp Adj Cash from Sale of Common Stock	1,000		Total Liabilities and Equity	150,000	89,400	60,600				
abilition date of common decox			Total Elabilities and Equity	100,000	00,100	00,000				
Cash Received from Customers										
Sales Add Beg Net A/R	352,000 13,300		Cash Paid for Operating Expenses Operating Exp	92,100		Interest E:	d for Interest	1,400		
Less End Net A/R	(15,000)		Less Depreciation Exp	(3,500)			nterest Payable	1,000		
ess Bad debt exp adj.	(1,000)		Less Beg Prepaid Insurance	(2,000)			Interest Payable	(500)		
Less Beg unearned Rev Add End Unearned Rev	•		Add End Prepaid Insurance Add Beg Accrued Liabilities	2,800		Total		1,900		
Total	349,300		Less End Accrued Liabilities	-		Cash Pai	d for Income Taxe	s		
			Less Bad Debt Adj.	(1,000)		Income Ta		18,800		
Cash Paid for Inventory Cost of Goods Sold	184,000		Total	88,400			nc. Tax Payable Inc. Tax Payable	4,000 (6,000)		
Add End Inventory	10,500		Cash Received from Interest			Total		16,800		
ess Beg Inventory	(12,700)		Interest Revenue	-						
Equal Purchases Add Beg A/P	181,800 5,600		Add Beg Interest Receivable Less End Interest Receivable	- 1						
ess End A/P	(3,500)		Total							
Total	183,900									
Cash Flow Statement										
yasıı i low otatement										
Cash Flows from Operating Activities										
Direct Method:		240.202								
Cash Received from Customers Cash Received from Interest		349,300								
Cash Payments for Inventory for Resale		(183,900)								
Cash Payments for Operating Expenses Cash Payments for Interest		(88,400) (1,900)	Cach Flows from Operating Activities							
Cash Payments for Taxes		(1,900)	Cash Flows from Operating Activities Indirect Method:		56,200					
Net Cash Provided (Used) by Operating Ad	ctivities	58,300	Net Income		,					
Cash Flows From Investing Activities:			Adj. To reconcile NI to net cash provided by operating activites:							
Cash from sale of Long Term Investment		6,400	Depreciation Expense		3,500					
Cash from Sale of Equipment		-	Change in Accounts Receivable		(1,700)					
Cash Paid for Purchase of Equipment Vet Cash Provided (Used) by Investing Act	studstee	(4,500)	Change in Inventory		2,200					
et Cash Provided (Used) by Investing Act	uviueS	1,900	Change in Pre-paid Expenses Change in Interest Receivable		(800)					
Cash Flows from Financing Activities:			Change in Accounts Payable		(2,100)					
Proceeds (+) or Payment (-) of long term de		(4,000)	Change in Taxes Payable		2,000					
Proceeds(+) or Payment(-) for Treasury Sto Payment of Cash Dividends	DCK	5,000 (2,000)	Change in Unearned Revenue Change in Interest Payable		(500)					
Net Cash Provided (Used) by Financing A	ctivities	(1,000)	(Gain) or Loss on sale of LT Inv.		(1,000)					
Netterment in C 1 10 1 =			(Gain) or Loss in Sale of Equipment		500					
Net Increase in Cash and Cash Eq	quivalents	50 200	Net Cash Provided (Used) by Operating Activities		58,300					
(Marketable Securities)		59,200	Is direct method equal to indirect method?		You got it	right baby				
Schedule of Noncash Investing and Fina	ncing Activities		S arrest metriod equal to munect metriod?		rou yut It	rigint DBDY				
ssued Common Stock for Equipment		6,000	Is Net increase in Cash same as change in							
			cash on the camparative balance sheet?		Great Job					

O'Keefe Inc.		•			Flow Statement Spreadsheet Model O'Keefe Inc.				
Compartive Income Statements					Statement of Cash Flows				
For the Year Ending December 31, 2012 and 2011					For the Year ending December 31, 2012				
In Thoursands of Dollars)					(In Thoursands of Dollars)				
mountained on Bonardy	2012	2011			(III Tirodicalide of Dollary)				
	20.2				Cash Flows from operating activities				
Sales	3,000	2,500			Net Income		115		
Cost of Goods Sold	(2,600)	(2,300)			Adjustments to reconcle net income		110		
Gross Profit	400	200			to net cash provided by operating activities				
					Depreciation Expense	\$ 50			
Operating Expenses:					Increase in Accounts Receivable	(45)			
Selling	(125)	(105)			Increase in Inventory	(50)			
General and Administrative	(70)	(60)			Increase in Interest Receivable	(5)			
Total Operating Expenses	(195)	(165)			Increase in Accounts Payable	105			
	(,	(,			Increase in Income Taxes Payable	40			
Operating Income	205	35	-		Increase in Interest Payable	5			
Operating income	200	33			Total Adjustments		\$ 100		
Oth - D									
Other Revenues and Expenses:					Net cash provided (used) by operating activities		215		
Interest Income	10	5							
Interest Expense	(40)	(20)			Cash flow from investing activities				
Total	(30)	(15)			Payments for purchase of equipment	\$ (190)			
Income Before Taxes	175	20			Net cash provided (used) by investing activities		\$ (190)		
Provision for Income Taxes (34%)	(60)	(7)					7 ()		
		13			Cook flow for financing patinities				
Net Income	115	13	-		Cash flow for financing activities				
					Proceeds from issuance of common stock	\$ 15			
Earnings Per Share	1.28	0.19			Proceeds from issuance of long-term debt	\$ 70			
					Payments on long-term debt	\$ (20)			
					Payment for loan to President	\$ (3)			
					Payment of cash dividends	\$ (27)			
O'Keefe Inc.					Net cash provided (used) by financing activities	ψ (21)	\$ 35		
					Net cash provided (used) by illiancing activities		φ 30		
Comparative Balance Sheets									
December 31, 2012 and 2011					Net increase (decrease) in cash and cash equivalents		60		
(In Thousands of Dollars)									
	2012	2011	Increase	(Decrease)	Cash and Cash Equivalents December 31, 2011		315		
Assets:									
Current Assets:					Cash and Cash Equivalents December 31, 2012		375		
Cash	300	270	30		odorrana odorr Equitatorito Bosombor ori, 2012		0.0		
					Cabadula of senses bluestics and Financias Astirities				
Marketable Securities	75	45	30		Schedule of noncash Investing and Financing Activities:				
Accounts Receivable (Net)	325	280	45		Issue Common Stock in Exchange for Equipment		10		
Inventories	400	350	50						
Interest receivable	60	55	5						
Total Current Assets	1,160	1,000	160						
					Cash Flow from operating activities (Direct Method)				
Property, plant, and equipment	1,500	1,300	200		Cash Received from Customers		2,955		
					Cash Received from Interest		5		
less accumulated Depreciation	(800)	(750)							
Net	700	550	150		Cash Payments for Inventory		(2,545)		
					Cash Payments for Operting Expenses		(145)		
Other Assets	15	12	3		Cash Payments for Interest		(35)		
					Cash Payments for Income Taxes		(20)		
Total Assets	1,875	1,562	313		Net cash provided (used) by operating activities		215		
Liabilities and Stockholders' Equity									
Current Liabilities:					Cash Received from Customers			Cash Paid for Inventory	
Accounts Payable	435	330	105		Sales	3,000		Cost of Goods Sold	2,60
Income Taxes Payable	45	5			Add Beg Net A/R	280		Add End Inventory	400
Interest Payable	50	45	5		Less End Net A/R	(325)		Less Beg Inventory	(35)
Total Current Liabilities	530	380	150		Less Bad debt exp adj.	-		Equal Purchases	2,650
					Less Beg unearned Rev			Add Beg A/P	330
Long Torm Doht	200	250	EO						
Long-Term Debt	300	250	50		Add End Unearned Rev	0.055		Less End A/P	(43
					Total	2,955		Total	2,54
Total Liabilities	830	630	200						
Stockholders' Equity					Cash Received from Interest			Cash Paid for Operating Expe	enses
Common Stock (\$1 par)	90	70	20		Interest Revenue	10		Operating Exp	19
Premium on Common Stock	15	10			Add Beg Interest Receivable	55		Less Depreciation Exp	(5)
Retained Earnings	940	852	88		Less End Interest Receivable	(60)		Less Beg Prepaid Insurance	,0,
Total Stockholers' Equity	1,045	932	- 00		Total	5		Add End Prepaid Insurance	
Total GlockHolela Equity	1,040	932	113		rotal	5			
T-1-111-1-120			0.17					Add Beg Accrued Liabilities	
Total Liabilities and Stockholders' Equity	1,875	1,562	313					Less End Accrued Liabilities	
								Less Bad Debt Adj.	
								Total	14
Additional Information (In Thoursands of dollars)									
Depreciation Expense during 2012		\$ 50						Cash Paid for Interest	
									40
Dividends declared and paid during 2012								Interest Exp	
Common Stock Issued at par for cash in 2012		\$ 15						Add Beg Interest Payable	4
Equipment acquired								Less End Interest Payable	(5)
Paid cash for equipment	\$ 190							Total	3
Issued comon stock for equipment	\$ 10								
Total Equipment acquired	, ,,	\$ 200						Cash Paid for Income Taxes	
Long Term debt paid off in cash									60
	:							Income Tax Exp	
Issued new Long Term debt for cash		\$ 70						Add Beg Inc. Tax Payable	
Loan extended to President of company								Less End Inc. Tax Payable	(4
		\$ -						Total	20
Bad Debt Expense Adjustment		Ÿ							

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20.000		
170,000		
2012	2011	
530,000	192,000	
-	-	
606,000	578,000	
792,000	822,000	
-	-	
108,000	152,000	
2,036,000	1,744,000	
1,606,000	1,500,000	
(852,000)	(756,000)	
754,000	744,000	
100,000	-	
2,890,000	2,488,000	
342,000	382,000	
-	-	
-	-	
112,000	70,000	
146,000	200,000	
-		
600,000	652,000	
248,000	-	
848,000	652,000	
410,000	310,000	
1,632,000	1,526,000	
-	-	
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APPENDIX 3 CASH FLOW STATEMENT CASE GRADING RUBRIC AND ERROR MESSAGES

Design report errors (20 points)

No Preliminary design report handed in as required by the assignment. -20

Why is a cash flow statement important to a business decision maker? -2

What is the purpose for computerizing the cash flow statement preparation? -2

Missing input, processing, output explanation up to -6

Template validity, usefulness and friendliness and generalizeability (40 points)

You have typed in values where a formula or cell reference should be. (Take off 1 point for each typed in value outside input section)

No built in formula for checking whether indirect method equals the direct method. -4

No built in formula for checking whether total cash flow equals change in cash and cash equivalents during the year on the balance sheet. -4

Your formulas could be more comprehensive so that this template would be useful to a wider range of entities. (take off up to 8 points)

Would be more user friendly if the formulas were properly labeled and documented. -4

No protection set on the appropriate cells in the work sheet. -4

No graph used in the worksheet -4

Direct Method (10 points)

Cash Received from Customers (up to 3 points off)

Cash Received from Interest -1

Cash Paid for Inventories (up to 2 points off)

Cash Paid for Operating Expenses (up to 2 points off)

Cash Paid for Interest -1

Cash Paid for Income Taxes not correct -1

Indirect method (10 points)

Depreciation exp of 96,000 should be added in indirect method -2

Gain on sale of fixed asset should be \$30,000 subtracted on indirect method. -1

AR increase of \$28,000 should be subtracted on indirect method. -1

Prepaid expenses decrease of \$44,000 should be added on indirect method -1

Inventories decrease of \$30,000 should be added on indirect method. -1

AP decrease of \$40,000 should be subtracted on indirect method. -1

Accrued liabilities increase of \$42,000 should be added on indirect method. -1

Investing Section and Financing Sections (20 points)

Missing \$50,000 cash in on sale of land in investing section. -4

Missing cash out for \$126,000 for purchase of equipment in investing section. -4

Missing long term debt issued for \$248,000 in financing section. -4

Missing Cash out from payment of Dividends for \$64,000 -4

Sale of patent for stock should be in the schedule of noncash financing and investing activities. -4

APPENDIX 4

QUESTIONS SENT TO FORMER STUDENTS WHO ARE WORKING IN ACCOUNTING PROFESSION

Cash Flow Statement Spreadsheet Model Case

I have attached the assignment instructions in a MS WordTM file, company case data PDF file, cash flow statement concepts Powerpoint file, and an example of a completed cash flow statement spreadsheet model for a specific company

Please answer the questions about the cash flow excel case assignment. The objectives of the assignment are:

- 1. Help students learn to prepare the cash flow statement using the balance sheet, statement of earnings, and necessary specific transactions
- 2. Help students become proficient with spreadsheets to help them automate and solve accounting problems or perform accounting functions in the business workplace.
- On a scale of 1 to 10 (10 being the strongest) do you believe this cash flow spreadsheet case meets objective 1? (Average response was 9.5)
- On a scale of 1 to 10 (10 being the strongest) do you believe this cash flow spreadsheet case meets objective 2? (Average response was 8.5)
- Since completing this case in class, have you ever referred to the spreadsheet in any way (i.e. help you with a cash flow statement or help you put together a spreadsheet model or perform a spreadsheet function)? Yes ____ or No ___ (3 Yes and 3 No)
- Should this case continue to be used to help students learn spreadsheet modeling? Yes __ or No __ (6 yes)
- Should this case continue to be used to help students learn cash flow statement concepts and application? Yes __or No __ (6 Yes)
- What type of entity do you work for? (please mark the appropriate entity type)
 - Public accounting
 - o Industry, Corporation ____
 - o Governmental entity ____
 - o Other ____

Please write any comments you have about this case (strengths, weaknesses, suggestions).