

The case of Grizzly Sports Highlighted, Inc.: analyzing accounting data using Excel

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ABSTRACT

Over the past decade, business managerial decisions have become more dependent on big data analyses to reduce inefficiency and optimize data. To ensure that accounting graduates have the necessary skills to enter the workforce, corporate recruiters and employers are requesting that business schools implement more Excel data analysis assignments in the accounting curricula. This instructional case is designed for junior and senior undergraduate accounting majors to strengthen their accounting, analytical, critical thinking, problem-solving, and Excel skills. The case also provides students with experiential learning they would not normally encounter in typical accounting textbook assignments. This fictional case involves Grizzly Sports Highlighted, Inc. (GSH), a sports magazine company, which generates revenue by selling magazine subscriptions and advertisements. The company has only been in business for two years and does not use a computerized accounting system or employ an accountant. During the year, a bookkeeper records all of the accounting transactions using Excel spreadsheets. At year end, the company hires an external accountant to assist with preparing the financial reports. In this case, accounting students will assume the role of an external accountant who analyzes the accounting data, records transactions and adjustments, and prepares financial statements according to generally accepted accounting principles (GAAP).

Keywords: Excel, accounting, randomized data, experiential learning, GAAP

INTRODUCTION

Over the past decade, business managerial decisions have become more dependent on big data analyses to reduce inefficiency and optimize data. To ensure that business graduates have the Excel skills to enter the workforce, corporate recruiters and employers are requesting that business schools implement more data analysis assignments involving Excel in the accounting curricula. As a result, accounting professors are assigning more data analysis projects using Excel in the accounting curricula at various levels. For example, Convery and Swaney (2012) developed mini cases for principles of managerial accounting where students are required to analyze data related to business issues using Excel functions. An Excel assignment was also used at a more advanced level using target date immunization to hedge risk in funding future liabilities of a bond portfolio (Wann and Long, 2018). One of the main advantages of implementing Excel assignments in the accounting curricula is that students have the opportunity to manipulate data and reduce errors while processing accounting information. The purpose of this case is to strengthen students' analytical, critical thinking, accounting, problem solving, and basic Excel skills. This case requires students to manipulate data, process accounting transactions, record adjusting entries, and prepare financial reports.

Instructors have the option to assign students a randomized or nonrandomized data set. The randomized data set is generated by hidden random number generators and macro commands in the Excel spreadsheet. Students with a randomized data set will have the same case, but different numbers. All students are required to follow the same approach to complete the project whether the data is randomized or nonrandomized. However, there may be a concern about the integrity of the work for students in the nonrandomized group since they will all have the same data set. Therefore, to mitigate this problem, at the beginning of the case the instructor may want to discuss with students the importance of ethical behavior and integrity of work.

LEARNING OBJECTIVES

Students completing this assignment should be able to:

1. analyze and manipulate data using Excel functions.
2. process accounting transactions.
3. prepare year-end adjusting entries.
4. prepare basic financial reports.
5. prepare a formal written business letter.

BACKGROUND OF GRIZZLY SPORTS HIGHLIGHTED, INC.

History of the Company

Grizzly Sports Highlighted, Inc. (hereafter, GSH) was incorporated in December 2015, by Mr. George S. Heinz, the owner and general manager. The company produces a monthly comprehensive sports magazine in the Atlanta, Georgia. Prior to starting GSH, Mr. Heinz had worked 10 years for another sports magazine company in another state and held many positions including editor-in-chief and senior publisher. He started his company in the basement of his home with a \$50,000 loan from his 401b account after he terminated his employment with his previous employer. Since the publication of its first issue in January 2016, GSH has become the

leading magazine in the sports industry for the metro-Atlanta area. It has a combination of in-depth analysis of all sports events and several editorial innovations to the genre. The magazine is published monthly and each issue is dated on the first day of the month and the mail distribution is completed by the 10th day of the month. The company relies heavily on generating revenues to expand its business, which is currently located in downtown Atlanta in a small office with a monthly rent payment of \$1460. Mr. Heinz cannot afford to hire a fulltime accountant, but he did hire a fulltime bookkeeper who does not have an accounting degree.

Revenue Sources

The company generates revenues from two sources, advertisements and magazine subscriptions. The monthly advertisement revenue comes from corporations in the sporting goods industry. The monthly subscription revenue comes from distribution of the monthly sports magazine.

As indicated in Exhibit 1 (Appendix), the excerpt from the advertisement revenue worksheet includes 225 advertisers for the period from January 1, 2016 to December 31, 2017. The worksheet includes the advertisement date, the size, the color, and cash collection date. The worksheet indicates that GSH offers both multiple color and black and white advertisements. The color advertisement rate is \$20 per square inch and the black and white advertisement rate is \$12 per square inch. The size of the advertisement can range from a minimum of 8 square inches to a maximum of 88 square inches. An analysis of the data shows that approximately 60 percent of the advertisements are color and the remainder is black & white. At the customer's request, GSH provides editorial advice free of charge as an incentive to increase its advertisement revenues. Each customer receives an invoice within 30 days following the advertisement date of publication. The total amount due is normally collected within four months of the invoice date.

As indicated in Exhibit 2 (Appendix), the excerpt from the subscription revenue worksheet consists of 589 subscribers for the period from January 1, 2016 to December 31, 2017. The worksheet includes the cash payment date, the subscription start date, and the price information. The magazine subscribers receive a monthly magazine and are required to pay in advance for the annual subscription. The regular rate for one-year subscription is \$120 dollars; however, approximately 20 percent of the subscribers use a 10 percent off coupon, which reduces the annual subscription rate to \$108. The customers will receive magazines for twelve consecutive months beginning the month after payment is received.

Other Accounting Information

As indicated in Exhibit 3 (Appendix), the company provides a detailed analysis of other accounting information and transactions that occurred during calendar year 2017. The worksheet includes cash payments made during the year, information to record depreciation expense, and other accounting information to assist with adjusting various accounts at year-end. The company's federal income tax rate is currently at 40 percent.

Trial Balance Worksheet

As indicated in Exhibit 4 (Appendix), the company provides a Trial Balance worksheet with the accounts for the beginning of the year, January 1, 2017. Students are required to enter

the current year's transactions (revenues, other accounting information, and adjustment data) in the transaction columns of the Trial Balance worksheet. Once all transactions have been recorded, the ending balance columns in the Trial Balance worksheet are used to prepare the financial statements.

Current Accounting Practice

Since GSH is a new company, it is not able to hire a full-time accountant. However, it does have a bookkeeper who keeps a record of revenues generated from advertisers and subscribers, payments for expenses, and additional year-end information in Excel spreadsheets. Throughout the year, the company did not prepare any journal entries or use accrual accounting in accordance with GAAP. However, GAAP requires that cash payments collected in advance of delivering the magazines be recorded as unearned subscription revenues and reclassified as subscription revenues when magazines are distributed to customers. Similar to last year, the company employs an external accountant to prepare its financial reports according to GAAP.

CASE REQUIREMENTS

In this case, students are assigned the role of external accountants who are hired by GSH to assist with preparing its year-end financial statements in accordance with GAAP. The company did not process transactions using a computerized accounting system; therefore, students will need to follow the steps listed below using several Excel worksheets to record transactions and prepare the financial statements. The overall grade students can earn for this case is based on the following five sections listed below and each section is worth five points:

1. analysis and recording of advertising data
2. analysis and recording of subscription data
3. recording transactions related to the "other Information" section
4. preparing a formal balance sheet, retained earnings statement, and income statement, and
5. the quality of the written letter to Mr. George S. Heinz, owner and general manager of GSH.

Prerequisites

To complete this assignment, students are required to have basic Excel skills. Students who lack the basic Excel skills, may complete an Excel tutorial in YouTube, Lynda.com, or another tool. Microsoft Excel is the most widely used spreadsheet software and it is a very easy to get started. Various Excel functions will be used in this project; however, detail information about Excel functions are not explained here. For beginners, it is useful to understand how to get help using Excel before you start the project. Listed below are a few helpful hints:

- (1) In Excel: The "Help" button in Excel is very small and can easily be ignored. The location of the "Help" button is in the top right corner of the window. The button looks like a question mark surrounded by a circle. You may also use the shortcut key, F1 to enable the Help window.
- (2) Internet searching: Many times, searching on the Internet is an easier way to get help. You would be able to find more beginner-friendly explanations with numerous examples without the use of highly technical terminology. For example, search at google.com using the keywords "Excel IF function", then voluminous examples of IF functions will be made available to you.

(3) Lynda.com: Lynda.com is an online learning site where students can learn software, design, and business skills to achieve their personal and professional goals. There are several video lectures on Excel in Lynda.com and each one is quite lengthy.

(4) Excel reference book: If students' Excel skills are very weak, it is strongly recommended that students purchase an Excel reference book. Most books cover basically the same kind of materials found in Lynda.com. Furthermore, it may be advantageous for students to review several books before making a purchase. .

Accessing Excel Worksheets

Students are instructed to download two worksheet files (Project.xlsm and Project.docx). If the students encounter a security warning (since the file may include macro commands) while downloading the files, they should reply "yes" to complete the download. The "Project.xlsm" file contains all the Excel worksheets with the other accounting data and information. When students download the initial project, the worksheet looks blank except for a shortcut tab. Once students click on the shortcut tab, numbers and information will populate in several worksheets. Next, students are required to download the "Project.docx" file to review the background information about the company. Students should frequently save their work to prevent the loss of work-in-progress. In addition, they should press "OK" to any privacy warnings received while working in Excel.

Case Assignment Requirements

Students are required to complete the five tasks listed below in the following order:

Advertisers' worksheet:

1. Analyze advertisement revenues using the "Advertisers" worksheet. The worksheet includes the advertisement publication date, size, color, and cash collection date. Students are required to complete the following tasks:
 - a. Calculate the amount of advertisement revenues earned for the year from January to December 31, 2017 following the revenue recognition principle.
 - b. Determine the account receivables balance (amounts outstanding) as of December 31, 2017.
 - c. Prepare and record the necessary journal entries to record the above transactions, 1a and 1b. Enter the journal entries into the adjustment column of the Trial Balance worksheet.

Subscribers' worksheet:

2. Analyze subscription revenues using the "Subscribers" worksheet. The worksheet includes the subscription start date, the cash receipt date, and the payment type (regular payment or discount payment). Since subscription revenue is paid 12 months in advance, students need to complete the following tasks:
 - a. Calculate the amount of earned subscription revenues for the 2017.
 - b. Calculate amount of unearned subscription revenues for 2017.

- c. Prepare and record journal entries for 2a and 2b above. Enter the journal entries into the adjustment column of the Trial Balance worksheet.

Other Information worksheet:

3. Analyze the transactions and data from the “Other Information” worksheet. The worksheet includes cash payments made during the year, information to record depreciation expense and necessary year-end adjustments. Students are required to complete the following tasks:
 - a. Prepare a journal entry to record each cash payment.
 - b. Prepare a journal entry to record depreciation expense.
 - c. Prepare a journal entry to record year-end adjustments.
 - d. Enter the journal entries into the adjustment column of the Trial Balance worksheet. Most cells may require students to input a formula versus amounts. Excel formulas or functions should be typed, such as “=A1+B1-C1” or “=sum (A1:A10)”. Do not type numbers.

Financial Reports:

4. Students will use the Adjusted Trail Balance as of December 31, 2017 to prepare the financial statements in good format. Students are required to complete the following tasks:
 - a. Prepare a multi-step income statement for December 31, 2017 on the “IS” spreadsheet.
 - b. Prepare a retained earnings statement for December 31, 2017 on the “RE” spreadsheet.
 - c. Prepare a classified balance sheet as of December 31, 2017 on the “BS” spreadsheet.

Letter to the Manager:

5. The owner and general manager of GHS, Mr. George S. Heinz, is inquiring why the December 31, 2017 net income shown on the Income Statement is significantly different from the cash balance on the Balance Sheet? Students are required to complete the following tasks:
 - a. Students are required to write a formal letter to Mr. Heinz (maximum 300 words) using the spreadsheet titled “Letter to Manager”. The letter should explain why there is a difference between the two amounts. While writing the letter, students should take into consideration that Mr. Heinz has no formal accounting education so they may want to include examples and accounting principles to explain the difference.

Once students have completed all the above tasks, they should save their work in all the worksheets and submit the saved Excel files to the instructor. The instructor can determine how and where the files should be submitted. If students encounter a problem submitting one file to the instructor, they may have to submit each worksheet as a separate file. Again, the instructor can determine the submission requirements.

CONCLUSION

This case addresses the concern employers and recruiters have about accounting graduates having the necessary Excel skills to enter the workforce. This case engages students in an experiential learning style assignment that offers them the opportunity to develop real world problem-solving skills. In addition, the case strengthens students' analytical, critical thinking, accounting, and Excel skills. One of the main advantages of implementing Excel assignments in the accounting curricula is that they allow students the opportunity to manipulate data and reduce errors while processing accounting information. In this case, students will take on the role of an external accountant hired to assist the company with processing its accounting transaction for the year to generate the year-end financial reports. Tasks included in this case assignment require students to manipulate data, process accounting transactions, record journal and adjusting entries, prepare financial reports, and write a formal letter. The instructor has the option to assign students randomized or nonrandomized data sets.

TEACHING NOTES

1. This case can be assigned to students in Intermediate Accounting or a higher level accounting course.
2. The assignment can be completed during class or outside of the classroom. The results from students who have completed the case show that the time required can vary based on the use of randomized or nonrandomized data. Past results show that students spend approximately 10 hours using nonrandomized data and 16 hours using randomized data.
3. Instructors may want to discuss ethical behavior for students using the nonrandomized data set since they have the same data. However, if the instructor thinks this may be an issue, randomized data may be assigned where every student receives a different data set which gives different solutions. If randomized data is used, the randomization processes are programmed with Excel's random number functions and private macro commands and embedded with a shortcut tab. When the student downloads the initial project, the spreadsheet looks blank except for the shortcut tab. All numbers and information pop up in several spreadsheets once students click on the shortcut tab.
4. Results of randomized data: (1) Advertiser data will generate a list of 225 advertising customers with random advertising dates assigned between January 2016 to December 2017. Advertisement detail is determined randomly such that approximately 60% advertisements are at multiple colors, and size of the advertisement is randomly between 8 to 88 inches. Cash collection dates are also assigned randomly over a four-month period after the advertisement date. (2) The subscriber data set is generated similar to the advertiser data set. Subscribers' data will generate a list of 589 subscribers with randomly assigned cash collection dates where 80% of the subscribers pay the regular price and 20% pay the 10%-off coupon price.
5. To facilitate quick and easy grading (short cut key is used), another macro command is created in a separate file for grading purpose. Students do not have access to this grading file, which provides the correct summary of answers for each project.
6. Excel data files will be made available to instructors upon request.

Exhibit 1
Excerpt from Advertisement Customers Worksheet

	A	B	C	D	E
4	Advertisement price per square inch	Black & White	\$ 12		
5		Multiple Color	\$ 20		
6					
7					
8	Advertiser Name	Advertisement Date	Size	Color or B&W	Cash Collection
9	Lanier Water Sports	1/1/2016	64	B&W	1/18/2016
10	Sugar Hill Golf Club	1/1/2016	48	COLOR	2/10/2016
11	Grizzlies Fan Club	1/1/2016	8	COLOR	5/2/2016
12	Sugarloaf Tennis Center	1/1/2016	24	B&W	1/15/2016
13	Stone Mountain Equipment Center	1/1/2016	24	COLOR	2/1/2016
14	Gainsville Aquatic Center	1/1/2016	56	COLOR	3/15/2016
15	Lanier Fishing Club	1/1/2016	64	B&W	2/16/2016
16	Jordan Basketball, Inc.	1/1/2016	8	B&W	4/1/2016
17	North Gwinnett Fitness	1/1/2016	8	COLOR	2/18/2016

Exhibit 1 shows a part of the advertisement revenue worksheet. It includes total 225 advertisers for the period of January 1, 2016 through December 31, 2017.

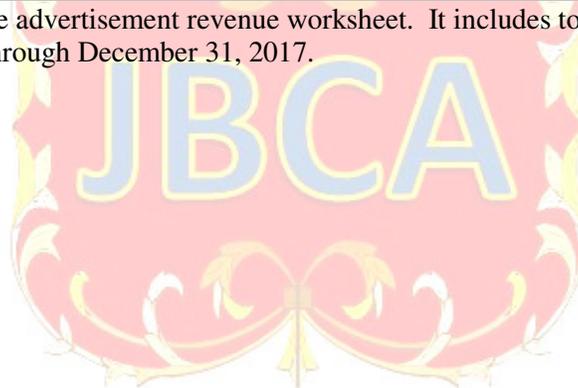


Exhibit 2
Excerpt from Subscription customers worksheet

	A	B	C	D	E
4	Subscription Rate for one year:		120	Regular Price	
5			108	With 10% off coupon	
6					
7					
8	Subscriber Name	Cash payment Date	Subscription starts	Payment type	
9	Alshab, A	12/8/2015	1/1/2016	10% COUPON	
10	Garcia, R	12/9/2015	1/1/2016	REGULAR	
11	Chen, S	12/10/2015	1/1/2016	10% COUPON	
12	Johnson, H	12/10/2015	1/1/2016	REGULAR	
13	Kaffee, R	12/11/2015	1/1/2016	REGULAR	
14	Famojure, L	12/11/2015	1/1/2016	REGULAR	
15	Makosy, D	12/12/2015	1/1/2016	REGULAR	
16	Morgan, J	12/13/2015	1/1/2016	REGULAR	
17	Kandukoori, S	12/13/2015	1/1/2016	REGULAR	
18	Hamilton, J	12/15/2015	1/1/2016	REGULAR	
19	Bashada, J	12/15/2015	1/1/2016	REGULAR	
20	Mitchell, W	12/16/2015	1/1/2016	10% COUPON	
21	Patel, K	12/18/2015	1/1/2016	REGULAR	
22	Williamson, T	12/18/2015	1/1/2016	REGULAR	

Exhibit 2 shows a part of the subscription revenue worksheet. It includes total 589 subscribers for the period of January 1, 2016 through December 31, 2017.

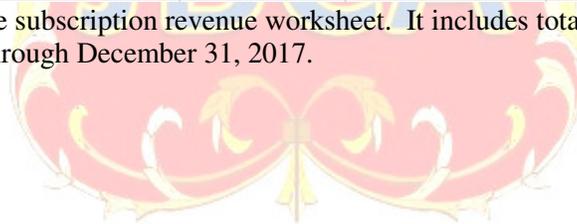


Exhibit 3
Other Accounting Information worksheet

	A	B	C	D	E	F	G	H	I	J
1	Cash Register									
2										
3	Cash Receipts:	Cash receipts from Subscribers and Advertisers are listed in Subscribers and Advertisers worksheet								
4		There are no other sources of cash receipts during the year								
5										
6	Cash Payments:	All cash payments are made by writing checks. The following is a summary of check payments								
7		\$700	Payment of utilities for December, 2016							
8		\$7,900	Payment of 2016 Income Tax							
9		\$3,460	Employee salaries for December, 2016, paid in January 10, 2017							
10		\$47,300	Employees salary of January to November, 2017							
11		\$6,030	Postage and Office Supplies purchased during the year							
12		\$12,692	Purchase of Magazine Editor (PP&E)							
13		\$960	Auto insurance premium for the delivery truck, for one year from 7/1/2017							
14		\$3,720	Purchase of the computer (PP&E)							
15		\$17,520	Office Rent for February, 2017 to January, 2018							
16		\$4,039	Annual maintenance expense for the printing machine							
17		\$4,169	Utilities Expense, January to November, 2017							
18										
19	Property, Plant & Equipment:	All PP&E's are depreciated based on the Straight-Line method								
20										
21			Purchase date	Original Cost	Useful life (years)	Salvage Value				
22		Printing Machine	1/1/2016	\$27,360	5	\$3,000				
23		Delivery Truck	7/1/2016	\$20,940	10	\$1,500				
24		Magazine Editor	1/1/2017	\$12,692	8	\$500				
25		Computer	5/1/2017	\$3,720	5	\$0				
26										
27										
28	Other Information									
29										
30		1. Salaries of \$4300 for December, 2017 will be paid on January, 10th of 2018								
31		2. All beginning balances of prepaid rent and insurance are expired during the year								
32		3. A Physical count of Postage and Supplies inventory shows the remaining balance of \$1,320 at the end of year								
33		4. Utility Expense of \$379 for December, 2017 will be paid on January, 15th of 2018								
34		5. The company's corporate income tax rate is 40%								
35										

Exhibit 3 shows various transactions of the company during the year other than advertisement and subscription revenues.

Exhibit 4
Trial Balance Worksheet

	A	B	C	D	E	F	G	H	I	J
1		Balances at 1/1/2017		2017 transactions		Balances at 12/31/2017				
2		debit	credit	debit	credit	debit	credit			
3	Cash	\$16,230								
4	Accounts Receivable	\$9,088								
5	Postage and Office Supplies	\$1,840								
6	Prepaid Rent	\$1,350								
7	Prepaid Insurance	\$780								
8	Printing Machine	\$29,460								
9	Accumulated Depreciation, Printing Machine		\$5,292							
10	Delivery Truck	\$13,260								
11	Accumulated Depreciation, Delivery Truck		\$588							
12	Magazine Editor									
13	Accumulated Depreciation, magazine Editor									
14	Computer									
15	Accumulated Depreciation, Computer									
16	Salaries Payable		\$3,540							
17	Unearned Revenues		\$17,449							
18	Utilities Payable		\$700							
19	Taxes Payable		\$7,800							
20	Contributed Capital		\$20,000							
21	Retained Earnings		\$16,639							
22	Advertising Revenue									
23	Subscription Revenue									
24	Salary Expense									
25	Postage and Office Supply Expense									
26	Depreciation Expense									
27	Insurance Expense									
28	Rent Expense									
29	Utility Expense									
30	Printing Machine Maintenance Expense									
31	Tax Expense									
32										
33										
34										
35	Total	\$72,008	\$72,008		\$0	\$0		\$0	\$0	
36										
37										

Exhibit 4 shows a trial balance of the company, including the beginning balances as of January 1, 2017. Students are requested to complete 2017 transactions and ending balance columns.

REFERENCES

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