

ANALYTICAL PROCEDURES FOR AUDITS & REVIEWS

profitcents[®]

Course Agenda

Benefits of ProfitCents
Analytical Procedures

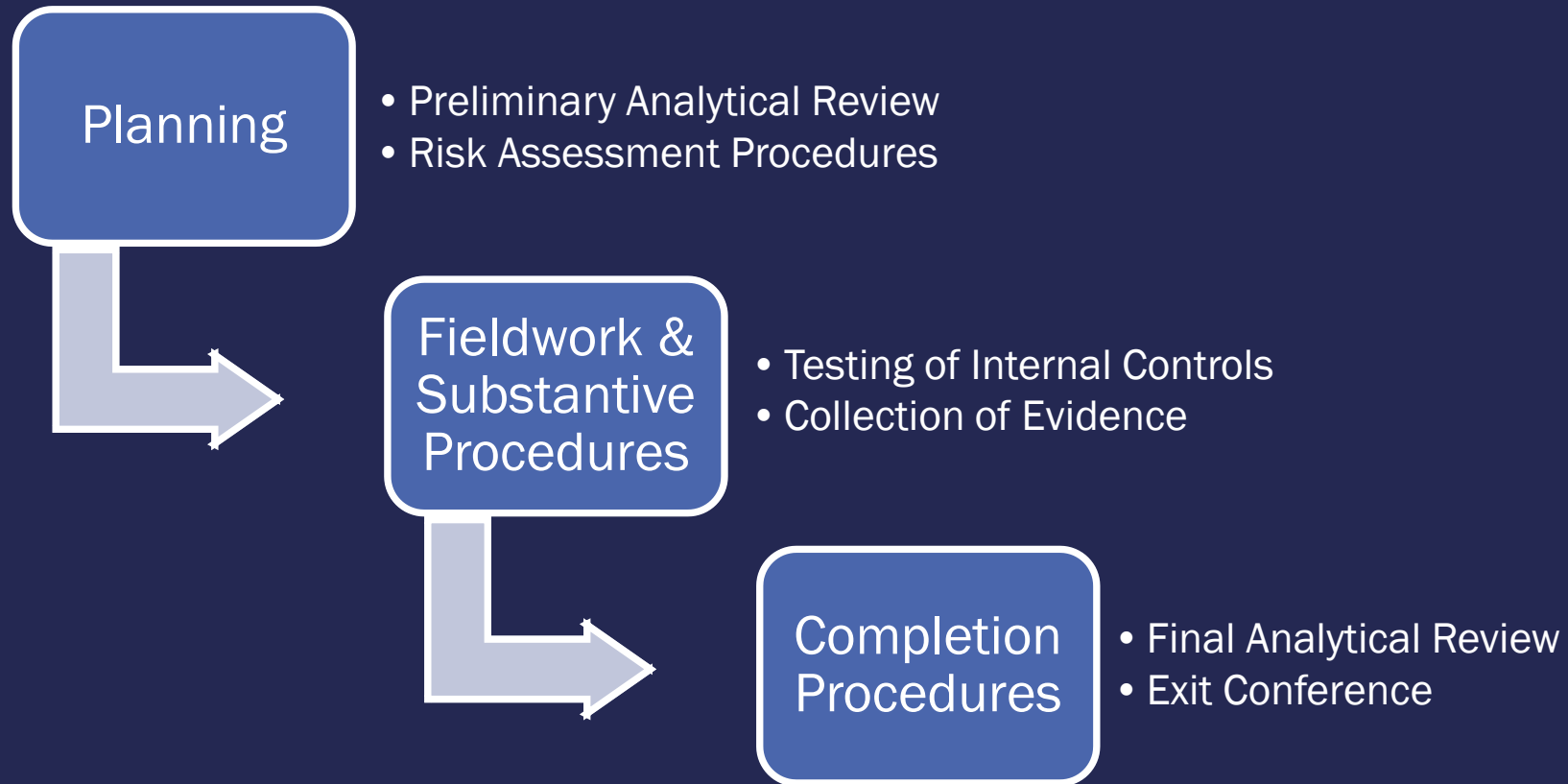
Building Analytical Procedures
Into Your Processes

Using Analytical Procedures

Best Practices for
Documentation



THE AUDIT PROCESS



Where does ProfitCents fit in?



PRELIMINARY
ANALYTICAL REVIEW



RISK ASSESSMENT
PROCEDURES



FINAL ANALYTICAL
REVIEW



EXIT CONFERENCE



DOCUMENTATION

Benefits of Analytical Procedures



Consistency



Reliability



Efficiency



Depth



Compliance



One of our most detailed reports



Helps comply with SSARS No. 19, SAS Nos. 56, 59, 77, 103, 104-111, Audit documentation and AICPA review guidelines



Used for audit and review documentation and analysis



Automates the task of developing and documenting expected values for your working papers



Can be downloaded into a portable Excel file

Key Facts

SAS Guideline	Definition	Where	How PC Helps
56	What method was used for analytical procedures	AP Report	Ration Analysis, Industry Comparisons, Non-Financial Info, Financial Data
	What is the acceptable difference between expected values and actual	AP Report; AP Worksheet	Threshold analysis (red flags)
	Non-financial data → financial (such as employees; Non-financial KPIs)	AP Worksheet; Narrative; Industry Data with KPIs	Employee section; Industry Data provides KPIs for comparing non-financial metrics
59	Going concern (will the company stay in business)	AP Worksheet; Narrative; Industry Data	Z-Score-likelihood of bankruptcy
103	Documents analytical procedures	Entire AP report and Worksheet	Report and Worksheet provide standardized audit documentation improving overall audit quality
104-111	Demonstrate understanding of the entity and its environment; Requires quality outside information	AP Worksheet; Narrative; Industry Data	Automated industry comparisons and statistical trends; Narrative report analyzes the business; Industry Data provides overview of the client's industry
	States responsibility for risk assessment	Risk Assessment Worksheet	Provides method of linking analytical procedures through to audit plan via risk assessment worksheet
	Describes the risk assessment procedures that auditors must perform	AP Worksheet; Scorecard	Provides variance analysis (period to period comparisons), industry comparisons, trend analysis and budget-to-actual
	Understand the entity and its environment		
	Develop expectations	AP Worksheet; Scorecard	Calculates the statistical trend and regression analysis, provides expected industry range (benchmarks)
115	Exit/management letter	Narrative and Industry Data	Provides "tips for improvement and narrative report



APPLICATIONS FOR:

THE PLANNING PHASE OF THE
ENGAGEMENT
& PRELIMINARY ANALYTICAL REVIEW



Integration of Financials

Use one of our integration methods to easily upload up to 5 periods of data

Integrates with a number of platforms such as Quickbooks, CCH, and Accounting CS



The screenshot shows the Profitcents user interface for selecting an integration method. At the top, the Profitcents logo is on the left, and the user's name 'Kristina Vidal' with a gear icon for 'Support & Training' and a question mark icon for 'Help us make our product better' are on the right. Below the logo is a breadcrumb trail: 'Home > Reports > Companies > Pick Data > Income Statement > Integrators'. A message reads: 'Please choose the software you want to import data from, or see our user guide.' Below this is a note: '**Note: We can only use the Internet Explorer browser for certain packages. If you don't have Internet Explorer, we recommend using the Excel option.' The main area contains eight colored buttons arranged in two rows: CCH - ProSystems fx Engagement (teal), QuickBooks (light teal), Creative Solutions (green), Caseware (dark green) in the top row; and Xero (blue), Excel (green), Tax Return (dark green), Accounting CS (teal) in the bottom row.

The screenshot shows the Profitcents 'Review Financial Data' interface. At the top, the Profitcents logo is on the left, and the user's name 'Kristina Vidal' with a gear icon for 'Support & Training' and a question mark icon for 'Help us make our product better' are on the right. Below the logo is the title 'Review Financial Data' with a sub-header 'Marketing Consulting Services / Analytical Procedures'. A breadcrumb trail reads: 'Home > Reports > Companies > Pick Data > Income Statement'. There is an 'Options' dropdown menu. Below this are three tabs: 'Income Statement' (selected), 'Balance Sheet', and 'Options'. Under the 'Income Statement' tab, there are three buttons: 'Import Client Financials' (highlighted in green), 'Export To Excel', and 'Load Subaccounts'. Below these buttons are three columns for the periods: '12/31/2018', '12/31/2017', and '12/31/2016'. The main area is a table with a list of expense categories on the left and numerical values for each period on the right. The categories include: Repairs and maintenance, Taxes and licenses, Billing service, Dues and subscriptions, Insurance, Legal and professional, Marketing, Telephone, and Utilities. At the bottom, there are 'Save' and 'Continue' buttons.

	12/31/2018	12/31/2017	12/31/2016
Repairs and maintenance	\$ 0	\$ 0	\$ 0
Taxes and licenses	\$ 0	\$ 0	\$ 0
Billing service	\$ 20,906	\$ 25,102	\$ 28,562
Dues and subscriptions	\$ 9,357	\$ 9,098	\$ 10,635
Insurance	\$ 4,190	\$ 3,919	\$ 10,946
Legal and professional	\$ 8,251	\$ 10,574	\$ 12,681
Marketing	\$ 2,393	\$ 4,799	\$ 5,250
Telephone	\$ 7,976	\$ 7,907	\$ 11,062
Utilities	\$ 10,832	\$ 10,626	\$ 13,672

Developing Expected Values

The current year data is NOT used in the calculation of the Expected Values so as not to bias the report

A sales growth driven model is used and is a primary driver of the expected values

ONLY the client's historical data is used to calculate the expected values; industry data, economic factors, etc., are not incorporated

Our expected values are calculated using a combination of trend and regression analysis to show what the current year should look like



	12/31/2016	12/31/2017	Actual 12/31/2018	Expected 12/31/2018	% Diff	Notes
Income Statement Data						
Sales (Income)	\$750,000	\$478,563	\$425,357	\$239,282	78%	
Cost of Sales (COGS)	\$202,335	\$143,234	\$136,785	\$69,498	97%	
Depreciation (COGS-related)	\$0	\$0	\$0	\$0	0%	
Direct Labor	\$0	\$0	\$0	\$0	0%	
Direct Materials	\$0	\$0	\$0	\$0	0%	
Gross Profit	\$547,665	\$335,329	\$288,572	\$169,784	70%	

⊖ Expected Values Calculations

How were the expected values in the Analytical Procedure Worksheet calculated?

SECTION 1: DESCRIBE THE ALGORITHMS USED TO CALCULATE EXPECTED VALUES

Each expected value found in this report is calculated using one of the following methods: Direct Calculation, Exponential Smoothing, or Adjusted Holt-Winters Exponential Smoothing. In this section, we will provide a general description and example for each of these algorithms to help the reader understand how the calculations work.

Expected Value by Direct Calculation

Calculated accounts do not need to be predicted separately, because their values are dictated by financial formulas (for example, Gross Profit = Sales - Cost of Sales). For these accounts, we simply determine the expected values for each account in the associated formula, and then compute the result of the formula.

Expected Value by Exponential Smoothing

Exponential smoothing is a forecasting method that relies on a weighted average of historical data values, with the more recent values carrying more weight. The following variables are used in this calculation:

Variables

alpha: weight to place on previously predicted values ($0 < \alpha < 1$)

(1-alpha): weight to place on the most recent actual value

f_t = forecast at time t for the period t+1

X_t = actual value at time t

The Exponential Smoothing Algorithm is computed as follows:

Calculation

Step 1: Initialize f_1 using oldest historical data

$$f_1 = X_1$$

Step 2: Iteratively calculate f_t from historical data

$$f_2 = (\alpha * f_1) + (1 - \alpha) * X_2$$

$$f = (\alpha * f_{t-1}) + (1 - \alpha) * X_t$$

Obtaining an understanding of the *Entity* and the *Environment* in which they operate

Real-time industry averages and trends

Key performance indicators

Industry specific recommendations



INDUSTRY FINANCIAL DATA AND RATIOS

View Formula Key

Average by Year (Number of Financial Statements)

Financial Metric	Last 12 Months (1,212)	2019 (1,366)	2018 (4,093)	Last 5 Years (22,596)	All Years (60,140)
Current Ratio	3.28	3.25	2.78	2.70	2.44
Quick Ratio	2.33	2.30	1.89	1.85	1.61
Gross Profit Margin	61.67%	61.64%	60.74%	60.12%	58.75%
Net Profit Margin	4.62%	5.04%	3.19%	2.60%	1.99%
Inventory Days	14.94	15.17	14.18	14.20	14.82
Accounts Receivable Days	0.62	0.63	0.52	0.49	0.56
Accounts Payable Days	14.37	14.84	14.59	14.52	16.27
Interest Coverage Ratio	8.98	9.28	10.87	11.14	9.59

COMPANY-SPECIFIC / INDUSTRY RECOMMENDATIONS

PROFITS & PROFIT MARGIN

What are some things the company might do to develop favorable profitability trends?

- ▶ Monitor labor costs continuously by watching the number of hours that each employee works so that overtime pay is not necessary.
- ▶ Watch food costs. Consider occasional trips to Costco or Sam's Club to save a few dollars on certain items.
- ▶ Create cost menus so that each menu item has a cost associated with it. This will help in figuring out what the profit margins are for each dish and which items should be removed. If needed, adjust menu item marketing to improve profitability.
- ▶ Utilize employees to the fullest capacity. Send unneeded servers home or close between meals. Have servers help with kitchen preparation or in another area when not busy, as this can help significantly reduce payroll costs.
- ▶ Keep a close eye on supply usage. Inventories are susceptible to theft and overuse by employees or others, and could eventually cost the restaurant a great deal of money.
- ▶ Include takeout food or home-meal-replacement items to attract time-pressed customers to the restaurant. Designate a separate area for take-out, train staff in take-out guidelines, provide convenient parking, and use proper packaging that will prevent food from spilling.
- ▶ Check freezer seals to reduce energy costs.

Obtaining an understanding of the *Entity* and the *Environment* in which they operate

Industry scorecard emphasizes changes in the company's financial position and its comparison to the industry

Narrative highlights key changes and relationships

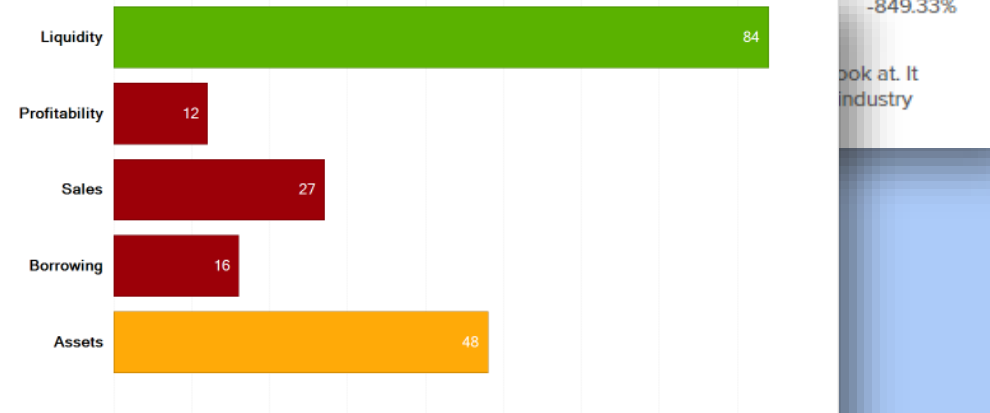


Industry Scorecard

Financial Indicator	Current Period	Industry Range	Distance from Industry
Current Ratio = Total Current Assets / Total Current Liabilities	8.72	1.30 to 2.50	+248.80%
Explanation: Generally, this metric measures the overall liquidity position of a company. It is certainly not a perfect barometer, but it is a good one. Watch for big decreases in this number over time. Make sure the accounts listed in "current assets" are collectible. The higher the ratio, the more liquid the company is.			
Quick Ratio = (Cash + Accounts Receivable) / Total Current Liabilities	8.44	0.90 to 2.00	+322.00%
Explanation: This is another good indicator of liquidity, although by itself, it is not a perfect one. If there are receivable accounts included in the numerator, they should be collectible. Look at the length of time the company has to pay the amount listed in the denominator (current liabilities). The higher the number, the stronger the company.			

Net Profit Margin
= Adjusted Net P

Explanation: This measures how n competitors. This



[Expand All](#)

Liquidity ●●●●● 84 out of 100

A measure of the company's ability to meet obligations as they come due.

Operating Cash Flow Results

Cash flow is negative this period, on weak profitability, and it has decreased relative to sales. Because overall liquidity is still quite solid, this may not cause too much concern, particularly if it is a one-time occurrence. However, negative cash flow should always be examined, as even the best liquidity positions can decline over time if cash flow and profit results turn consistently negative.

General Liquidity Conditions

The company's liquidity position has decreased from last period, possibly due in part to the unprofitable period that was experienced. Although **liquidity still looks quite good**, losses on the Income Statement side of the business will generally decrease liquidity performance. Profits (or losses) direct long-term

Tools for Analytical Review

Trend Analysis

Ratio Analysis

Industry Comparative Data

Common Size Statements



Common Size Statements

What is Common Size?

	12/31/2016	12/31/2017	12/31/2018	Industry* (1259)
Income Statement Data				
Sales (Income)	100%	100%	100%	100%
Cost of Sales (COGS)	27%	30%	32%	24%
Depreciation (COGS-related)	0%	0%	0%	--
Direct Labor	0%	0%	0%	24% (37)
Direct Materials	0%	0%	0%	9% (41)
Gross Profit	73%	70%	68%	76%
Depreciation	0%	0%	0%	0%
Amortization	0%	0%	0%	0%
Overhead or S,G,& A Expenses	77%	83%	90%	56%
G & A Payroll Expense	53%	55%	61%	34% (530)
Rent	7%	8%	8%	3%

Accounts Receivable Days



This number reflects the average length of time between credit sales and payment receipts. It is crucial to maintaining positive liquidity. The lower the better.

Tools for Analytical Review

Threshold Analysis



Analytical Procedure Worksheet

Report prepared for: Marketing Consulting Services

NOTE: To change an EXPECTED value, click on the value.

Export to Excel | Set Threshold Value | Hide Empty Sub Accounts

Use this form to highlight accounts that differ from the calculated expected value.

Flag Expected Accounts that are

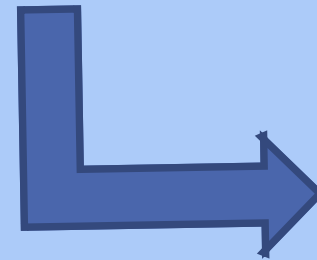
Greater / Less than actual by: \$

OR

Greater / Less than actual by:

OK Cancel

Income Statement Data	12/31/2016	12/31/2017	12/31/2018	Expected 12/31/2018	% Diff
Sales (Income)				239,282	
Cost of Sales (COGS)				69,498	
Depreciation (COGS-related)				\$0	
Direct Labor				\$0	
Direct Materials				\$0	
Gross Profit				169,784	
Gross Profit Margin	73.02%	70.07%	67.84%	70.96%	
Depreciation	\$2,572	\$0	\$0	\$0	
Amortization	\$0	\$0	\$0	\$0	



Accounts whose current and expected values differ by more than 30% are highlighted in red.

NOTE: To change an EXPECTED value, click on the value.

Export to Excel | Set Threshold Value | Hide Empty Sub Accounts

Income Statement Data	12/31/2016	12/31/2017	Actual 12/31/2018	Expected 12/31/2018	% Diff	Notes
Sales (Income)	\$750,000	\$478,563	\$425,357	\$239,282	78%	
Cost of Sales (COGS)	\$202,335	\$143,234	\$136,785	\$69,498	97%	
Depreciation (COGS-related)	\$0	\$0	\$0	\$0	0%	
Direct Labor	\$0	\$0	\$0	\$0	0%	
Direct Materials	\$0	\$0	\$0	\$0	0%	
Gross Profit	\$547,665	\$335,329	\$288,572	\$169,784	70%	
Gross Profit Margin	73.02%	70.07%	67.84%	70.96%	-4%	

TOOLS FOR ANALYTICAL REVIEW

Variance Analysis

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>> Notes Threshold << \$ OR % 45 >> Common Size Variance << >> Budget >> Risk Assessment

AND STRICTLY Show accounts that do not meet threshold

Click for help on using comments

Income Statement	12/31/2016	12/31/2017	Variance (\$)	Variance (%)	Actual 12/31/2018	Variance (\$)	Variance (%)	Expected 12/31/2018	Variance (\$)	Expected % Diff
<i>Sales (Income)</i>	\$750,000	\$478,563	(\$271,437)	-36.2%	\$425,357	(\$53,206)	-11.1%	\$239,282	(\$186,075)	77.8%
<i>Cost of Sales (COGS)</i>	\$202,335	\$143,234	(\$59,101)	-29.2%	\$136,785	(\$6,449)	-4.5%	\$69,498	(\$67,287)	96.8%
Depreciation (COGS-related)	\$0	\$0	\$0	N/A	\$0	\$0	N/A	\$0	\$0	0.0%
Direct Labor	\$0	\$0	\$0	N/A	\$0	\$0	N/A	\$0	\$0	0.0%
Direct Materials	\$0	\$0	\$0	N/A	\$0	\$0	N/A	\$0	\$0	0.0%
<i>Gross Profit</i>	\$547,665	\$335,329	(\$212,336)	-38.8%	\$288,572	(\$46,757)	-13.9%	\$169,784	(\$118,788)	70.0%
Gross Profit Margin	73.02%	70.07%	-2.95%	-4.0%	67.84%	-2.23%	-3.2%	70.96%	3.11%	-4.4%
Depreciation	\$2,572	\$0	(\$2,572)	-100.0%	\$0	\$0	N/A	\$0	\$0	0.0%
Amortization	\$0	\$0	\$0	N/A	\$0	\$0	N/A	\$0	\$0	0.0%
<i>Overhead or S,G,& A Expenses</i>	\$578,921	\$398,501	(\$180,420)	-31.2%	\$380,812	(\$17,689)	-4.4%	\$236,299	(\$144,513)	61.2%
<i>G & A Payroll Expense</i>	\$395,182	\$263,917	(\$131,265)	-33.2%	\$258,570	(\$5,347)	-2.0%	\$132,652	(\$125,918)	94.9%
Rent	\$51,004	\$36,966	(\$14,038)	-27.5%	\$32,377	(\$4,589)	-12.4%	\$22,928	(\$9,449)	41.2%
Advertising	\$9,816	\$6,575	(\$3,241)	-33.0%	\$7,411	\$836	12.7%	\$3,334	(\$4,077)	122.3%

TOOLS FOR ANALYTICAL REVIEW

Budget-to Actual Comparison

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OR % | **45**

AND
 STRICTLY
 Show accounts that do not meet threshold

[Click for help on using comments](#)

Income Statement	12/31/2016	12/31/2017	Actual 12/31/2018	Expected 12/31/2018	Budget 12/31/2018	Expected % Diff	Budget Variance (\$)
<i>Sales (Income)</i>	\$750,000	\$478,563	\$425,357	\$239,282	\$450,000	77.8%	\$24,643
<i>Cost of Sales (COGS)</i>	\$202,335	\$143,234	\$136,785	\$69,498	\$140,000	96.8%	\$3,215
Depreciation (COGS-related)	\$0	\$0	\$0	\$0	\$0	0.0%	\$0
Direct Labor	\$0	\$0	\$0	\$0	\$0	0.0%	\$0
Direct Materials	\$0	\$0	\$0	\$0	\$0	0.0%	\$0
<i>Gross Profit</i>	\$547,665	\$335,329	\$288,572	\$169,784	\$310,000	70.0%	\$21,428
Gross Profit Margin	73.02%	70.07%	67.84%	70.96%	68.89%	-4.4%	1.05%
Depreciation	\$2,572	\$0	\$0	\$0	\$0	0.0%	\$0
Amortization	\$0	\$0	\$0	\$0	\$0	0.0%	\$0
<i>Overhead or S,G,& A Expenses</i>	\$578,921	\$398,501	\$380,812	\$236,299	\$375,000	61.2%	(\$5,812)
<i>G & A Payroll Expense</i>	\$395,182	\$263,917	\$258,570	\$132,652	\$0	94.9%	(\$258,570)



APPLICATIONS FOR:

RISK ASSESSMENT PROCEDURES



Preliminary
Analytics

Risk
Assertions &
Assessments

Audit Plan

Marketing Consulting Services 541613 - Marketing Consulting Services

OR %

STRICTLY
 Show accounts that do not meet threshold

Material if account is greater than or equal to:

Income Statement	12/31/2016	12/31/2017	Actual 12/31/2018	Expected 12/31/2018	Expected % Diff
Sales (Income)	\$750,000	\$478,563	\$425,357	\$239,282	77.8%
Cost of Sales (COGS)	\$202,335	\$143,234	\$136,785	\$69,498	96.8%
Depreciation (COGS-related)	\$0	\$0	\$0	\$0	0.0%
Direct Labor	\$0	\$0	\$0	\$0	0.0%
Direct Materials	\$0	\$0	\$0	\$0	0.0%
Gross Profit	\$547,665	\$335,329	\$288,572	\$169,784	70.0%
Gross Profit Margin	73.02%	70.07%	67.84%	70.96%	-4.4%
Depreciation	\$2,572	\$0	\$0	\$0	0.0%
Amortization	\$0	\$0	\$0	\$0	0.0%
Overhead or S,G,& A Expenses	\$578,921	\$398,501	\$380,812	\$236,299	61.2%
G & A Payroll Expense	\$395,182	\$263,917	\$258,570	\$132,652	94.9%

Is the Line-item Material?	20	% of Sales dollars
Y		
Y		
N		
N		
N		
Y		
N		
N		
Y		
Y		

TO USE THIS SHEET: Assign Risk Significance, Select Assertion Risk Levels, and Enter Notes. Please use a number scale of 1-3 to assign risk, with 3 being the greatest risk. This will estimate the overall risk of material misstatement. Then, choose the best audit approach.

IMPORTANT: This sheet is NOT saved when you save your report through the AP Worksheet tab.

Consulting Services 541613 - Marketing Consulting Services

Financial Statements	Risk Assessment Notes	Risk Significance	ASSERTIONS												Average Assertion Risk	Audit Approach based upon Risk Assessment	
			Existence or Occurrence		Completeness		Rights and Obligations		Valuation and Allocation		Accuracy and Classification		Cutoff				
			Inherent Risk	Control Risk	Inherent Risk	Control Risk	Inherent Risk	Control Risk	Inherent Risk	Control Risk	Inherent Risk	Control Risk	Inherent Risk	Control Risk			
Sales (Income)		None	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Cost of Sales (COGS)		None	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Gross Profit		None	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Overhead or S,G,& A Expenses		None	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
G & A Payroll Expense		None	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Adjusted Owner's Compensation		None	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Cash (Bank Funds)		None	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Accounts Receivable		None	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Inventory		None	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None
Other Current Assets		None	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	None





APPLICATIONS FOR:

FINAL ANALYTICAL REVIEW



Case Study



PROBLEM

SOLUTION

RESULT

"With new audit standards coming out, we find Analytical Procedures **more and more useful** in our planning stages. It is helping us structure an interim approach to audit procedures, and the benchmark tools help us with interim audit planning."

-Jim Lovelace

Beach, Fleischmann & Co.

Tucson, AZ

Developing Management Letter Comments



Industry: 722511 - Full-Service Restaurants
Sales Range: All Sales Ranges
Comparing To: Private Company Data
Current Location: All Areas

COMPANY-SPECIFIC / INDUSTRY RECOMMENDATIONS

LIQUIDITY

What are some potential ways to improve the company's ability to meet obligations as they come due?

- ▶ Use reliable suppliers that can deliver goods when they are needed. For example, suppliers that can deliver within one day can make it easier for the restaurant to keep inventory low and fresh.
- ▶ Sell any unnecessary or unproductive assets the business may have to increase cash.
- ▶ Prepare yearly forecasts that show cash flow levels at various points in time. Consider updating these forecasts on a monthly or bi-weekly basis to help prepare for potential future cash shortfalls.

PROFITS & PROFIT MARGIN

What are some things the company might do to develop favorable profitability trends?

- ▶ Monitor labor costs continuously by watching the number of hours that each employee works so that overtime pay is not necessary.
- ▶ Watch food costs. Consider occasional trips to Costco or Sam's Club to save a few dollars on certain items.
- ▶ Create cost menus so that each menu item has a cost associated with it. This will help in figuring out what the profit margins are for each dish and which items should be removed. If needed, adjust menu item marketing to improve profitability.

SALES

What are some things the company can consider to encourage sales growth?

- ▶ Establish uniqueness in the menu items, dining experience, or placement of the restaurant. Create a

ENHANCING THE EXIT CONFERENCE



profitcents®

⊖ Industry Scorecard

Financial Indicator	Current Period	Industry Range	Distance from Industry
Current Ratio = Total Current Assets / Total Current Liabilities	8.72	1.30 to 2.50	+248.80%
Explanation: Generally, this metric measures the overall liquidity position of a company. It is certainly not a perfect barometer, but it is a good one. Watch for big decreases in this number over time. Make sure the accounts listed in "current assets" are collectible. The higher the ratio, the more liquid the company is.			
Quick Ratio = (Cash + Accounts Receivable) / Total Current Liabilities	8.44	0.90 to 2.00	+322.00%
Explanation: This is another good indicator of liquidity, although by itself, it is not a perfect one. If there are receivable accounts included in the numerator, they should be collectible. Look at the length of time the company has to pay the amount listed in the denominator (current liabilities). The higher the number, the stronger the company.			
Net Profit Margin = Adjusted Net Profit before Taxes / Sales	-22.48%	3.00% to 12.00%	-849.33%
Explanation: This is an important metric. In fact, over time, it is one of the more important barometers that we look at. It measures how many cents of profit the company is generating for every dollar it sells. Track it carefully against industry competitors. This is a very important number in preparing forecasts. The higher the better.			
Interest Coverage Ratio = EBITDA / Interest Expense	-37.82	4.00 to 12.00	-1,045.50%
Explanation: This ratio measures a company's ability to service debt payments from operating cash flow (EBITDA). An increasing ratio is a good indicator of improving credit quality. The higher the better.			

Documentation

Analytical Procedures Worksheet

Focus Area Notes



⊖ Analytical Procedure Worksheet

Report prepared for: Marketing Consulting Services

NOTE: To change an EXPECTED value, click on the value.

[Export to Excel](#) [Set Threshold Value](#) [Hide Empty Sub Accounts](#)

	12/31/2016	12/31/2017	Actual 12/31/2018	Expected 12/31/2018	% Diff	Notes
Income Statement Data						
Sales (Income)	\$750,000	\$478,563	\$425,357	\$239,282	78%	1
Cost of Sales (COGS)	\$202,335	\$143,234	\$136,785	\$69,498	97%	
Depreciation (COGS-related)	\$0	\$0	\$0	\$0	0%	
Direct Labor	\$0	\$0	\$0	\$0	0%	
Direct Materials	\$0	\$0	\$0	\$0	0%	

⊖ Focus Area

Here is an interesting finding on the company that might be worth evaluating:

NOTE: To modify/delete an observation/focus area, click on the number to the left of the note.

- 1 **Sales (Income):** per conversation with controller, sales have decreased in the current year due to the loss of a key customer

Documentation

Expected Values Calculations



⊖ Expected Values Calculations

How were the expected values in the Analytical Procedure Worksheet calculated?

SECTION 1: DESCRIBE THE ALGORITHMS USED TO CALCULATE EXPECTED VALUES

Each expected value found in this report is calculated using one of the following methods: Direct Calculation, Exponential Smoothing, or Adjusted Holt-Winters Exponential Smoothing. In this section, we will provide a general description and example for each of these algorithms to help the reader understand how the calculations work.

Expected Value by Direct Calculation

Calculated accounts do not need to be predicted separately, because their values are dictated by financial formulas (for example, Gross Profit = Sales - Cost of Sales). For these accounts, we simply determine the expected values for each account in the associated formula, and then compute the result of the formula.

Expected Value by Exponential Smoothing

Exponential smoothing is a forecasting method that relies on a weighted average of historical data values, with the more recent values carrying more weight. The following variables are used in this calculation:

Variables

alpha: weight to place on previously predicted values ($0 < \alpha < 1$)

(1-alpha): weight to place on the most recent actual value

f_t = forecast at time t for the period t+1

X_t = actual value at time t

The Exponential Smoothing Algorithm is computed as follows:

Calculation

Step 1: Initialize f_1 using oldest historical data

$f_1 = X_1$

Step 2: Iteratively calculate f_t from historical data

SECTION 2: SHOW THE CALCULATIONS FOR EACH EXPECTED VALUE

Now that we have given a brief overview of the algorithms used to calculate expected values, we will show precisely how each value in this report has been calculated. Calculations may vary slightly due to rounding.

Sales (Income)

Algorithm: Adjusted Holt-Winters Exponential Smoothing

Formula

In this case, the Adjusted Holt-Winters algorithm predicted Sales (Income) would drop below an intuitive value. Therefore, we have smoothed the Expected Value for Sales (Income) by setting the expected value to half the prior period value.

Calculation

$0.5 * 478,563$

Documentation

Additional Analytical Tools

- Loan Template
- Financial Ratios
- Charts



Add New Loan

Loan Information

Calculate Term Calculate Payment
 Name: New Loan
 Loan Type: Fixed Payment
 Amortization Days: 360 Days
 Balance: \$0
 Remaining Term (months): 60
 Interest Rate: 8.00%
 First Payment Date: 1/1/2010
 Monthly Payment: \$0.00 (Includes Interest)

To update the payment details of this loan, use the schedule below. Please only change columns which are *red and italicized*.

Amortization Schedule

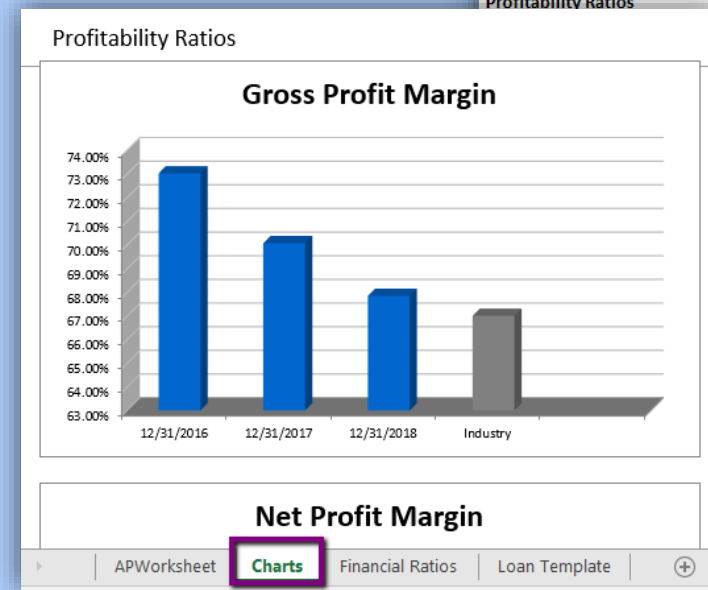
New Loan

Payment No.	Payment Date	Payment Amount	Additional Payment	Interest	Principal	Balance	Amount Borrowed
1	1/1/2010	\$0.00	\$0.00	\$0.00		\$0.00	
2	2/1/2010	\$0.00	\$0.00	\$0.00		\$0.00	
3	3/1/2010	\$0.00	\$0.00	\$0.00		\$0.00	
4	4/1/2010	\$0.00	\$0.00	\$0.00		\$0.00	
5	5/1/2010	\$0.00	\$0.00	\$0.00		\$0.00	
6	6/1/2010	\$0.00	\$0.00	\$0.00		\$0.00	

APWorksheet | Charts | Financial Ratios | **Loan Template** (+)

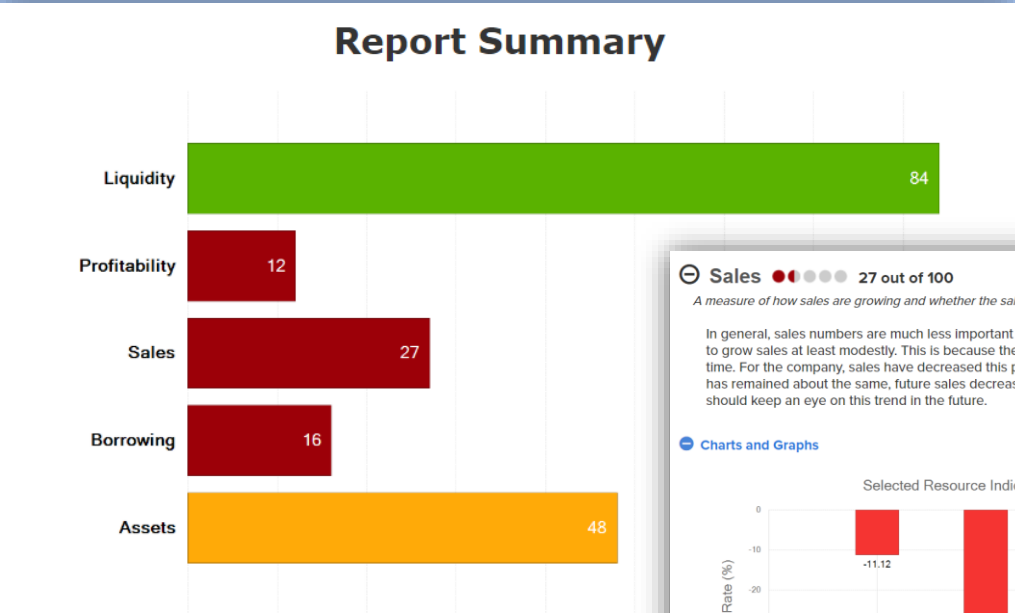
	12/31/2016	12/31/2017	12/31/2018	Industry
Liquidity Ratios				
Current Ratio	20.22	13.30	8.72	1.90
Quick Ratio	18.21	12.94	8.44	1.45
Financial Leverage / Coverage Ratios				
Debt-to-Equity Ratio	1.89	18.03	0.97	1.40
Interest Coverage Ratio	(5.49)	(14.36)	(37.82)	8.00
Debt Leverage Ratio	0	0	0	
Z-Score	5.97	2.02	1.87	
Profitability Ratios				
	73.02%	70.07%	67.84%	67.00%
	-5.32%	-14.36%	-22.48%	7.50%
	-97.91%	-1295.08%	-129.97%	14.00%
	-33.87%	-68.06%	-66.06%	9.00%
	46.55	68.46	67.70	20.00
	0.00	0.00	0.00	25.00
	0.00	0.00	0.00	3.00
	7.14	4.63	7.23	14.00
	1.31%	1.37%	1.74%	1.75%
	6.80%	7.72%	7.61%	6.00%
	52.69%	55.15%	60.79%	37.50%
	52.69%	55.15%	60.79%	0.00%

Charts | **Financial Ratios** | Loan Template (+)



Documentation

Narrative Analysis



[Expand All](#)

⊖ Liquidity ●●●●● 84 out of 100

A measure of the company's ability to meet obligations as they come due.

Operating Cash Flow Results

Cash flow is negative this period, on weak profitability, and it has decreased relative to sales. Because overall liquidity is still quite solid, this may not cause too much concern, particularly if it is a one-time occurrence. However, negative cash flow should always be examined, as even the best liquidity positions can decline over time if cash flow and profit results turn consistently negative.

General Liquidity Conditions

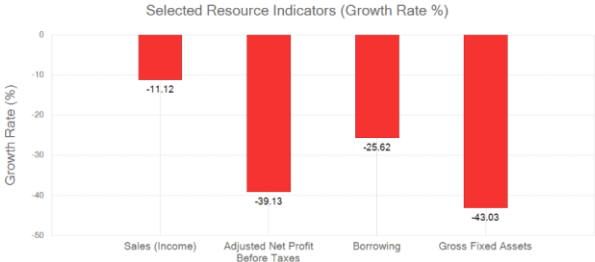
The company's liquidity position has decreased from last period, possibly due in part to the unprofitable period that was experienced. Although **liquidity still looks quite good**, losses on the Income Statement side of the business will generally decrease liquidity performance. Profits (or losses) direct long-term

⊖ Sales ●●●●● 27 out of 100

A measure of how sales are growing and whether the sales are satisfactory for the company.

In general, sales numbers are much less important than profitability. However, over time companies want to grow sales at least modestly. This is because the cost of running a business tends to increase over time. For the company, sales have decreased this period by 11.12%. Because the company's asset base has remained about the same, future sales decreases could eventually harm profitability. Managers should keep an eye on this trend in the future.

Charts and Graphs



This data is based on the two most recent available periods.



THANK YOU!

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