TT TEXTBOOK TESTBANKS

Solutions Manual for Introduction to Data Analytics for Accounting 2nd Richardson

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Chapter 2 End-of-Chapter Assignment Solutions

Multiple Choice Questions

1. (LO 2-4) What would be most likely to be disclosed in an 8-K filing to the SEC?
    a. Financial statements
    b. Change in auditor
    c. Management Discussion and Analysis
    d. Overview of a company's main operations
2. (LO 2-4) What is the computer-based standard used to define and exchange financial information from financial statements preparers and financial statement users?
    a. SEC EDGAR
    b. XBRL
    c. Earnings call
    d. Customer Relationship Management
3. (LO 2-5) Which system would be used to manage the hiring process for all potential employees?
    a. Human Resource Management System
    b. Customer Relationship Management System
    c. Supply Chain System
    d. Financial Reporting System
4. (LO 2-4) The biggest difference between a 10-K and a 10-Q is the __________ disclosure.
    a. frequency of
    b. agency that receives the
    c. financial statements included in the
    d. company providing the
5. (LO 2-5) The chapter suggested that _____________ be used to help evaluate inventory obsolescence and the lower of cost or net realizable value of inventory.
    a. product reviews
    b. inventory counts
    c. structured data
    d. supply chain data
6. (LO 2-3) Whereas ______________ would generally be considered to be structured data, _____________ would generally be considered to be unstructured data.
    a. financial statements; product reviews
    b. product reviews; financial statements
    c. Instagram pictures; product reviews
    d. geographic images; firm budget

7. (LO 2-3) If there were fake news presented by someone trying to sway an opinion (or a vote), that would bring into question which aspect of Big Data?
    a. Volume
    b. Veracity
    c. Velocity
    d. Variety
8. (LO 2-4) An announcement of a new CEO would most likely be reported on which SEC form?
    a. 10-K
    b. 10-Q
    c. 8-K
    d. S-1
9. (LO 2-2, LO 2-5) There are really very few opportunities to have a question-and-answer session with the CEO of a company and have it recorded for others to use. _________ provides details of the interactive question-and-answer session available to all interested parties.
    a. The management discussion and analysis as part of the 10-K
    b. Conference call transcripts
    c. Press releases
    d. SEC form 8-K
10. (LO 2-6) The moral responsibility associated with gathering, protecting and using data is called data ________.
    a. responsibility
    b. stewardship
    c. ethics
    d. morals

Discussion Questions

1. Here are some potential items that you might be interested in knowing:
    a. The capacity and the tickets sold for each prior flight from New York to Miami for the last six months.
    b. What day of the week/what time of day are flights usually oversold?
    c. At what point do the airlines decide to award vouchers to customers to rebook their travel to a later time/date (i.e., how much oversold).
2. Stock prices change on a second-by-second basis for most publicly traded companies during the hours the stock exchange is open (9:30am to 4pm ET) as well as afterhours trading. Contrast that to the income statement that is only issued on a quarterly basis. Clearly stock prices have higher velocity than the income statement (or all financial statements). The income statement should have higher veracity than the stock prices as stock prices sometimes reflect more than just the value of the company and may be swayed (at least in the short-run) by (inaccurate) sentiment. It is unclear what the value of financial statements issued on a more frequent basis

would be to the investors. It is good to get information on a timelier basis, but if it causes additional information overload, it may not be useful.

3. Balance sheets and other financial statements lend themselves well to a tabular format where each number is associated with a title, or a tag. In contrast, the form and function of product reviews, in general, do not lend themselves to the same structure as the financial statements.
4. In general, financial statements are checked and rechecked and audited by both internal and external auditors and have pretty good veracity. Blogs are usually opinions that are not fact-checked and thus would, in general, exhibit lower veracity.
5. A set of Instagram posts would, in general, exhibit more variety than does spreadsheet employee data. Employee data likely would have factual based information, whereas Instagram posts would include selfies, opinions, political statements, etc.
6. Form 10-K, an annual submission to the Securities and Exchange Commission, requires management discussion and analysis. It offers management an opportunity to explain prior results and forecast future goals, strategies and accounting performance. This information would be useful by data analysts to help their prediction models for future performance. Textual analysis is increasingly used to evaluate the sentiment and meaning of the data using machine learning techniques.
7. A budget would help a data analyst know what the company expected before actual performance occurred. And the actual performance would let a data analyst know how well the company performed relative to those expectations.
8. Data analysts might perform textual analysis to examine the relative sentiment (good vs bad vs. average) of the management participating in the conference call.
9. A company might use its Human Resource Management system data to evaluate its employee turnover. A company might evaluate the training received by the employee, how long they were employed, if they had a college degree, their absenteeism rate, their prior performance evaluations, etc., to evaluate why they quit or kept their jobs.
10. A company could use its Customer Relationship Management data to evaluate whether a customer is continuing to order product, historical length to pay the receivables owed to the company, if the customer is still in business, etc.
11. A company could use its Supply Chain data to evaluate whether a fraudulent vendor is set up by confirming that the vendor provided the product, what kind of product, etc. before deciding whether to pay the vendor.
12. Data from a point-of-sale system could be used by a vendor to determine where (e.g., location), when (date, or time of day), to whom (which customer) a specific product was sold. This will help the supplier have the right product, in the right place, at the right time, at the right price for its customers for their evaluation and potential purchase.
13. Data ethics is the moral responsibility of the company to gather, protect and use data in an ethical manner. Customers should be able to expect that their personally identifiable information will be protected and used in an ethical manner. Increasingly, laws are being passed that take these responsibilities from solely a moral responsibility to a legal requirement because of its importance to individuals.

Brief Exercises

1. **(LO 2-4) Match the accounting data term to the definition provided.**

Accounting Data Term	Definition
Fixed Assets	Plant (factories, office buildings, stores, etc.) and equipment (vehicles, fork lifts, computers, machinery, power tools, technical apparatus).
EDGAR	Automatically collects, validates, indexes and serves as a repository for all forms submitted to the Securities and Exchange Commission.
8-K	A required submission to the Securities and Exchange Commission (SEC) that is used to notify investors of important events or announcements that either the SEC or shareholders might be interested in receiving.
Data analytics	The technologies, systems, practices, methodologies, databases, statistics, and applications used to analyze diverse accounting and non-accounting data to give organizations the information they need to make sound and timely business decisions.
Data ethics	The moral responsibility for gathering, protecting and using data that contains sensitive information.

2. **(LO 2-4, LO 2-5) Match the accounting and non-accounting data terms to the example of that data.**

Accounting Data Term	Example of Data
Customer Relationship Management System	Customer order history
Human Resource Management System	Employee salary history
Supply Chain System	Status of delivery of product parts
SEC EDGAR	Form 8-K
XBRL	IBM's Accounts Receivable in 2025

3. **(LO 2-3) Match the data characteristic one of the Four V's of Big Data (e.g. Velocity, Variety, Volume, Veracity).**

Data Characteristic	Four V's of Big Data
Speed of Generation	Velocity
Unstructured Data	Variety
Uncleaned data	Veracity
Sheer Size of Data	Volume

Data Characteristic	Four V's of Big Data
Untrusted Data	Veracity
Semi-structured Data	Variety
Frequency of Analysis	Velocity

4. (LO2-4, LO2-5) Match the data source to the data provided.

Data Provided	Data Source
The weight of bananas sold by store location	Point-of-Sale Terminal/Data
The number of days employee 3713 was tardy to work last year	Human Resource Management System
CEO and CFO comments on recent earnings performance	Earnings Conference Call
Details on depreciation taken to date for tax purposes	Fixed Asset Subledger
Financial Statement Data	SEC EDGAR or Yahoo! Finance
Company Prediction of Future Sales Performance	Budget Data
Prediction of Future Earnings by External Party	Financial Analyst Forecast

Problems

1. **Solution: Go to SEC EDGAR (https://www.sec.gov/edgar/searchedgar/companysearch.html) and** download the 2021 10-K (dated 01-31-2021) for Walmart (Ticker Symbol = WMT). Enter File Type as "10-K".
   - (2) 2014
   - What is Walmart's Consolidated Net Income for the fiscal period ending January 31, 2021 in $ millions? $ 13,706 million
   - (3b) What is the Walmart's total assets as of January 31, 2021 in $ millions? 252,496 million
2. **Solution: Go to Yahoo! Finance (https://finance.yahoo.com/) and search the symbol for the NASDAQ Composite (^IXIC). Click on Historical Data and find the close price between November 12, 2020 and November 11, 2021.**
   - (2) What was the adjusted close price for the NASDAQ Composite on November 12, 2020? 11,709.59
   - (3) What was the adjusted close price for the NASDAQ Composite on November 11, 2021? 15,704.28
3. **Solution: Go to Yahoo! Finance (https://finance.yahoo.com/) and search the symbol for the Tesla (TSLA). Click on Historical Data and find the closing share price between October 11, 2021 and November 11, 2021.**
   - (2) What was the adjusted close price for Tesla on October 11, 2021? $791.94
   - (3) What was the adjusted close price close price for Tesla on November 11, 2021? $1,063.51

4. **Solution: Summarize monthly sales and compute the % Change from one month to the next (as shown in the chapter).**
    - (2b) What is the July monthly sales? $471,868
    - (2c) What is the November monthly sales? $445,057
    - (3b) What is the percentage change in monthly sales from May to June (round to two decimal points)? 2.05%
    - (3c) What is the percentage change in monthly sales from November to December (round to two decimal points)? 4.31%
5. **Solution: Summarize sales by month, by sales region (regions 1-4), and by both month and region.**
   Solution:
    - (2b) What is the January monthly sales? $488,388
    - (2c) What is the February monthly sales? $487,364
    - (3b) What is the total sales for region 3? $1,358,312
    - (3c) What is the total sales for region 1? $1,367,478
    - (4b) What is the December sales for region 2? $139,236
    - (4c) What is the April sales for region 3? $130,128
6. **Solution: Summarize sales journal transactions by SKU. Determine total sales and total gross margin using a PivotTable.**
    - (1) What are the total sales for SKU DJI-AIR? **$11,988**
    - (2) What is the total gross margin for sales of SKU DJI-MMC? **$790**
    - (3) Which product (SKU) had the highest sales during the month? **MAV-2II**
    - (4) Which product (SKU) had the lowest gross margin during the month? **DJI-GBA**
7. **Solution: Summarize sales journal transactions by SKU. Determine total sales, total cost of sales and total gross margin using a PivotTable.**
    - (1) What are the total sales for SKU SK2-CIK? **$25,186**
    - (2) What is the total cost for all sales of SKU SKY-BAT? **$1,386**
    - (3) What is the total gross margin for SKU SK2-BEA? **$945**
    - (4) Which product had the highest sales during the month? **SKY-PRK**
    - (5) Which product had the lowest cost of sales during the month? **SK2-USB**
    - (6) Which product had the highest gross margin during the month? **SKY-PRK**
8. **Solution: Summarize sales journal transactions by customer. Determine total sales, total cost of sales and total gross margin using a PivotTable by customer.**
    - (1) What is the total gross margin for customer 3022? **$821**
    - (2) What are the total sales for customer 3000? **$1,328**
    - (3) What is the total cost of sales for customer 3039? **$885**
    - (4) Which customer bought the most during the month? **Customer 3013**
    - (5) Which customer bought the least during the month? **Customer 3008**
    - (6) What was the total customer sales for the month for the company? **$142,986.93**

Chapter 2 Lab Solutions

Lab 2-1 Excel Solution

1. Take a screenshot of the top 20 rows listing the total amount due by customer (from the PivotTable), paste it into a word document named "Lab 2-1 Excel SS.doc", and label the screenshot Submission 1.
2. Take a screenshot of eBay's invoices due, paste it into a word document named "Lab 2-1 Excel SS.doc", and label the screenshot Submission 2.

Lab 2-1 Excel Submission 1 Screenshot: Take a screenshot of the top 20 rows listing the total amount due by customer (from the PivotTable), paste it into a word document named "Lab 2-1 Excel SS.doc", and label the screenshot Submission 1.

	A	B
1		
2		
3	**Customer**	**Total Amount Due**
4	3M	$4,129.38
5	Adidas	$1,506.60
6	Amazon.com	$1,174.63
7	American Express	$1,480.77
8	Apple Inc.	$2,119.33
9	AT&T	$1,195.78
10	Audi	$2,198.22
11	Avon	$1,160.37
12	Beko	$4,595.20
13	Blackberry	$2,721.64
14	BMW	$2,196.83
15	Bucci	$3,766.92
16	Burberry	$1,570.62
17	Canon	$3,070.51
18	Caterpillar Inc.	$1,911.50
19	Chase	$1,692.45
20	Citigroup	$3,774.45
21	Coca-Cola	$2,425.09
22	Corona	$2,210.46
23	Credit Suisse	$1,351.58
24	Deere & Company	$1,517.84
25	eBay	$4,462.88
26	Gap Inc.	$1,618.24

(Source: Screengrab Microsoft Excel 365, Vern Richardson)

Lab 2-1 Excel Submission 2 Screenshot: Take a screenshot of eBay's invoices due, paste it into a word document named "Lab 2-1 Excel SS.doc", and label the screenshot Submission 2.

Customer	InvoiceAmount	Due Date	Days Past Due
eBay	1036.24	10/21/2025	71
eBay	406.6	9/29/2025	93
eBay	522.79	11/17/2025	44
eBay	834.76	12/13/2025	18
eBay	1180.65	8/24/2025	129
eBay	481.84	8/10/2025	143

(Source: Screengrab Microsoft Excel 365, Vern Richardson)

Lab 2-1 Excel Assessment Questions

	Questions 1-5	Answer
		Lab 2-1
Assessment 1	What is the total amount of accounts receivable? (enter with two decimals)	$169,144.34
Assessment 2	How much does Nintendo owe in total? (enter with two decimals)	$2,249.71
Assessment 3	How much does Oracle Corporation owe in total? (enter with two decimals)	$1,736.78
Assessment 4	How many detailed invoices does Porsche have?	8
Assessment 5	How many detailed invoices does Microsoft have?	2

Lab 2-1 Excel Analysis Questions

1. **Why would this pivot table analysis be considered a crosstabulation?**

Crosstabulations provide data tables for the entire group of transactions as well as subgroups that might be of interest. In the case of this analysis, pivottables were used to assess the total amounts due (or accounts receivable) by date and by customer, consistent with the definition of crosstabulations.

2. **Why would it be important to know how much each customer owes?**

A knowledge of an accounts receivable balance by customer is important to collect payment and to assess whether to continue to extend credit to the customer. Accounts receivable balances by customer is also important to establishing an allowance for doubtful accounts by knowing which customers have paid and which have not.

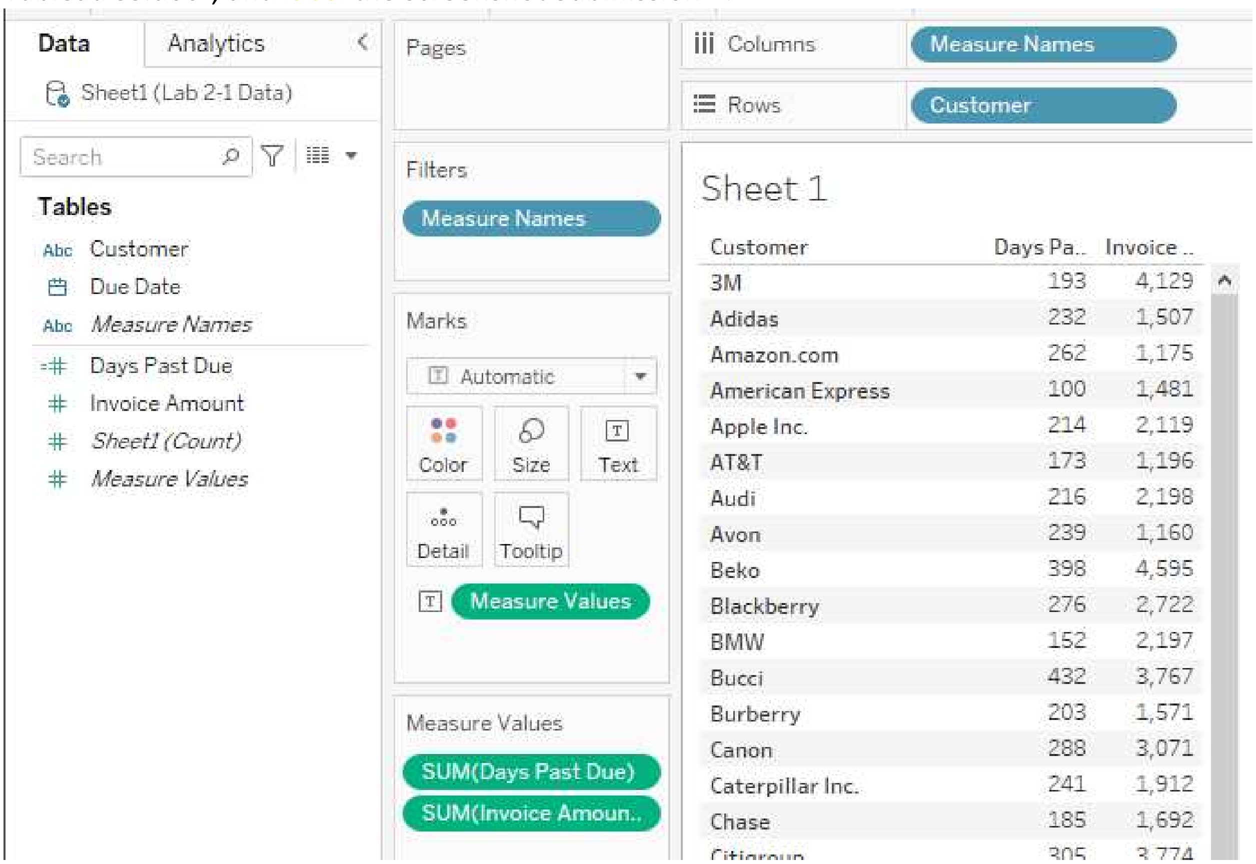
Lab 2-1 Tableau Solution

Lab 2-1 Tableau Solution

1. Take a screenshot of the top 20 rows listing the total amount due by customer (from the PivotTable), paste it into a word document named "Lab 2-1 Tableau SS.doc", and label the screenshot Submission 1.

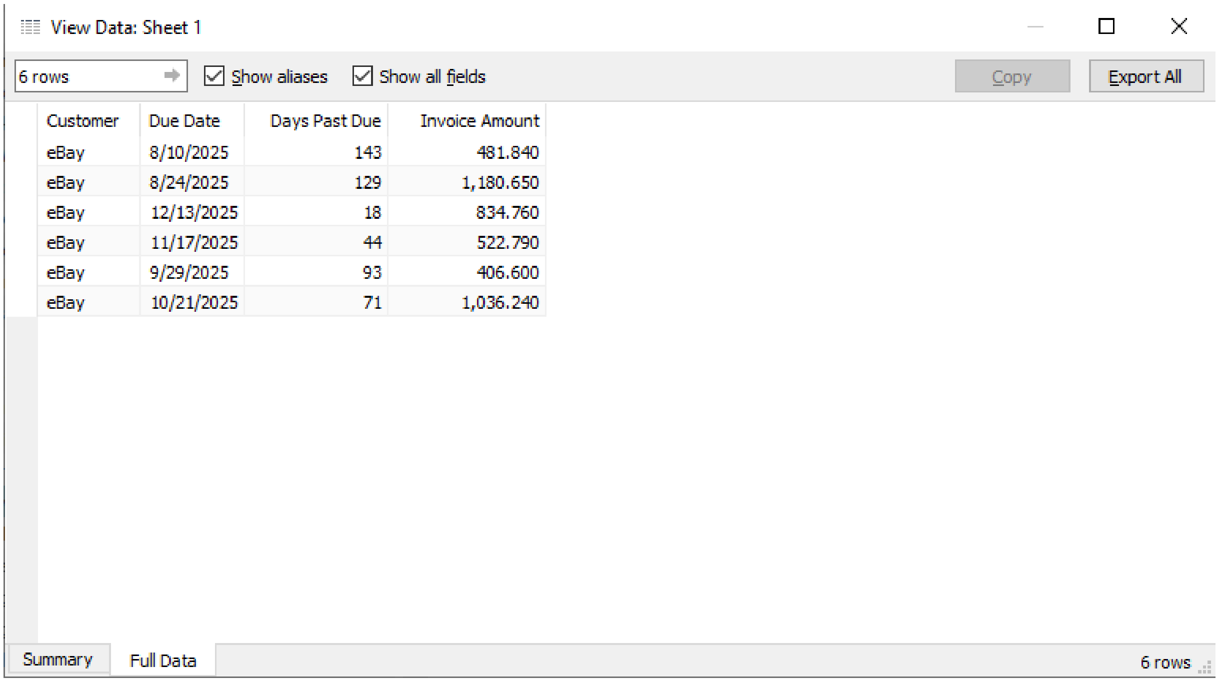
2. Take a screenshot of eBay's invoices due, paste it into a word document named "Lab 2-1 Tableau SS.doc", and label the screenshot Submission 2.

Lab 2-1 Tableau Submission 1 Screenshot: Take a screenshot of the top 20 rows listing the total amount due by customer (from the PivotTable), paste it into a word document named "Lab 2-1 Tableau SS.doc", and label the screenshot Submission 1.



(Source: Screengrab Tableau, Katie Terrell)

Lab 2-1 Tableau Submission 2 Screenshot: Take a screenshot of eBay's invoices due, paste it into a word document named "Lab 2-1 Tableau SS.doc", and label the screenshot Submission 2.



View Data: Sheet 1

6 rows | Show aliases | Show all fields | Copy | Export All

Customer	Due Date	Days Past Due	Invoice Amount
eBay	8/10/2025	143	481.840
eBay	8/24/2025	129	1,180.650
eBay	12/13/2025	18	834.760
eBay	11/17/2025	44	522.790
eBay	9/29/2025	93	406.600
eBay	10/21/2025	71	1,036.240

Summary | Full Data | 6 rows

(Source: Screengrab Tableau, Katie Terrell)

Lab 2-1 Tableau Assessment Questions

	Questions 1-5	Answer
		Lab 2-1
Assessment 1	How much does 3M owe in total? (round to the nearest whole dollar)	$4,129
Assessment 2	How much does Nintendo owe in total? (round to the nearest whole dollar)	$2,250
Assessment 3	How much does MTV owe in total? (round to the nearest whole dollar)	$1,820
Assessment 4	How many detailed invoices does Nokia have?	2
Assessment 5	How many detailed invoices does Zara have?	2

Lab 2-1 Tableau Analysis Questions

1. **Explore some of the different ways to present this data in the "Show Me" tab. Explain one other way to visualize this data that would be useful and why.**

   Answers will vary. Students generally like to try different charts in the “Show Me” tab and see the different ways of visualizing the data including Packed Bubbles, Pie Charts, Highlight Tables, Stacked Bars, etc. While each has its own purpose, some visualizations seem to work best for their intended purpose.

2. **How often should this analysis be run to consider how much each customer owes?**

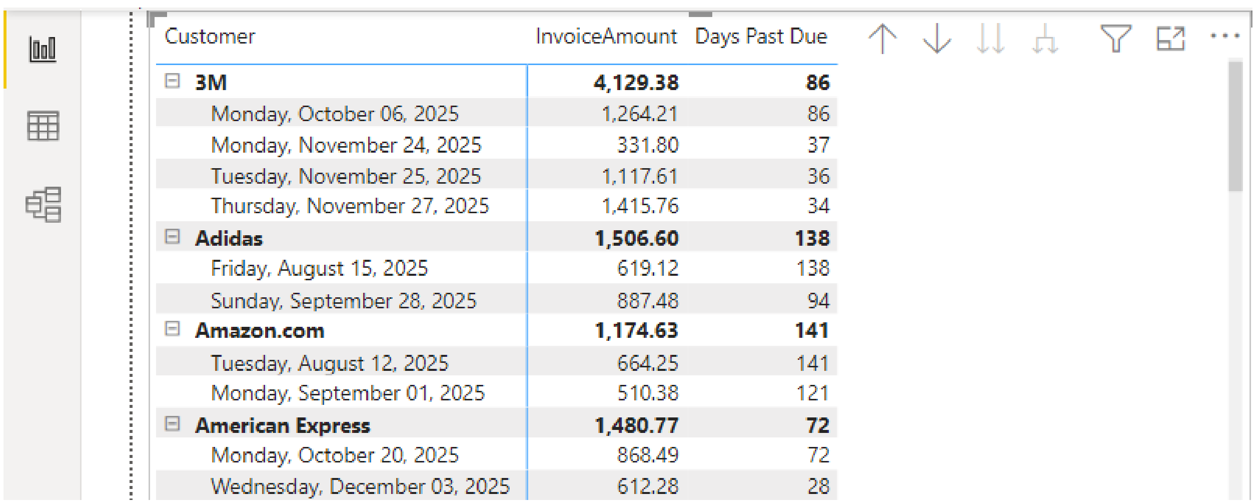
The question of timing is usually how often the chart updates. If the collections department is receiving payment and the sales department making sales on a regular basis, perhaps daily or weekly is most appropriate.

Lab 2-1 Power BI Solution

1. Take a screenshot of the top 20 rows listing the total amount due by customer, paste it into a word document named "Lab 2-1 Power BI SS.doc", and label the screenshot Submission 1.

2. Take a screenshot of eBay's invoices due, paste it into a word document named "Lab 2-1 Power BI SS.doc", and label the screenshot Submission 2.

Lab 2-1 Power BI Submission 1 Screenshot: Take a screenshot of the top 20 rows listing the total amount due by customer, paste it into a word document named "Lab 2-1 Power BI SS.doc", and label the screenshot Submission 1.



Customer	InvoiceAmount	Days Past Due
3M	**4,129.38**	**86**
Monday, October 06, 2025	1,264.21	86
Monday, November 24, 2025	331.80	37
Tuesday, November 25, 2025	1,117.61	36
Thursday, November 27, 2025	1,415.76	34
Adidas	**1,506.60**	**138**
Friday, August 15, 2025	619.12	138
Sunday, September 28, 2025	887.48	94
Amazon.com	**1,174.63**	**141**
Tuesday, August 12, 2025	664.25	141
Monday, September 01, 2025	510.38	121
American Express	**1,480.77**	**72**
Monday, October 20, 2025	868.49	72
Wednesday, December 03, 2025	612.28	28

(Source: Screengrab Power BI, Ryan Teeter)

Lab 2-1 Power BI Submission 2 Screenshot: Take a screenshot of eBay's invoices due, paste it into a word document named "Lab 2-1 Power BI SS.doc", and label the screenshot Submission 2.

Customer	InvoiceAmount	Days Pas
eBay	4,462.88	143
Sunday, August 10, 2025	481.84	143
Sunday, August 24, 2025	1,180.65	129
Monday, September 29, 2025	406.60	93
Tuesday, October 21, 2025	1,036.24	71
Monday, November 17, 2025	522.79	44
Saturday, December 13, 2025	834.76	18

(Source: Screengrab Power BI, Ryan Teeter)

Lab 2-1 Power BI Assessment Questions:

	Questions 1-5	Answer
		Lab 2-1
Assessment 1	How much does AT&T owe in total? (enter with two decimals)	$1,195.78
Assessment 2	How much does Citigroup owe in total? (enter with two decimals)	$3,774.45
Assessment 3	How much does H&M owe in total? (enter with two decimals)	$1,429.28
Assessment 4	How many detailed invoices does General Electric have?	4
Assessment 5	How many detailed invoices does Bucci have?	4

Lab 2-1 Power BI Analysis Questions

1. **Explore some of the different ways to present this data in the "Visualizations" pane. Explain one other way to visualize this data that would be useful and why.**

   Answers will vary. Students generally like to try different charts in the “Visualizations” pane and see the different ways of visualizing the data including Packed Bubbles, Pie Charts, Highlight Tables, Stacked Bars, Stacked Columns etc. While each has its own purpose, some visualizations seem to work best for their intended purpose.
2. **Which visualization shows the relative size of owed invoices by the different companies in a way most accessible to the collections department? Why?**

   Answers will vary. The stacked bar charts and stacked column charts seem to show the relative size of owed invoices in an accessible way to management.

Alt Lab 2-1 Solution

1. Take a screenshot of the top 20 rows listing the total amount due by customer (from the PivotTable), paste it into a word document named "Alt Lab 2-1 SS.doc", label the screenshot Submission 1.

2. Take a screenshot of Thai Tap invoices due, paste it into a word document named "Alt Lab 2-1 SS.doc", label the screenshot Submission 2.

Alt Lab 2-1 Submission 1 Screenshot:

Customer Name	Total Amount Due
Pita Pan	$5,106.87
Planet of the Grapes	$4,773.33
We Fry it All	$5,190.30
Taste of Thai	$4,163.56
Brewed Miracles	$4,804.51
One in a Million	$5,227.06
Tequila Taste	$5,156.13
The Godfather	$4,827.68
Soup 'r Salad	$3,011.59
Thai Tap	$5,077.93
Wok Delight	$5,107.25
Grandma's Greasy Spoon	$3,935.20
Grand Total	**$56,381.41**

(Source: Screengrab Microsoft Excel 365, Vern Richardson)

Alt Lab 2-2 Submission 2 Screenshot:

Customer	InvoiceAmount	Due Date	Days Past Due
Thai Tap	480.75	12/20/2021	11
Thai Tap	340.4	12/13/2021	18
Thai Tap	471.92	11/27/2021	34
Thai Tap	232.33	11/26/2021	35
Thai Tap	319.79	11/16/2021	45
Thai Tap	450.57	11/11/2021	50
Thai Tap	116.37	10/24/2021	68
Thai Tap	365.47	10/23/2021	69
Thai Tap	76.99	10/16/2021	76
Thai Tap	282.43	10/9/2021	83
Thai Tap	137.21	9/30/2021	92
Thai Tap	419.99	9/28/2021	94
Thai Tap	265.42	9/4/2021	118
Thai Tap	170.13	9/1/2021	121
Thai Tap	97.89	8/29/2021	124
Thai Tap	207.96	8/28/2021	125
Thai Tap	393.55	8/24/2021	129
Thai Tap	248.76	8/23/2021	130

(Source: Screengrab Microsoft Excel 365, Vern Richardson)

Alt Lab 2-1 Assessment Questions

		Alt Lab 2-1
Assessment 1	What is the total dollar amount of accounts receivable? (enter with two decimals)	$56,381.41
Assessment 2	How much does Grandma's Greasy Spoon owe in total? (enter with two decimals)	$3,935.20
Assessment 3	How much does Pita Pan owe in total? (enter with two decimals)	$5,106.87
Assessment 4	How much does One in a Million owe in total? (enter with two decimals)	$5,227.06
Assessment 5	How much does The Godfather owe in total? (enter with two decimals)	$4,827.68
Assessment 6	What are the total receivables due for the customer Wok Delight? (enter with two decimals)	$5,107.25
Assessment 7	What is the due date of the earliest invoice (most days past due) for Thai Tap included?	8/23/2025
Assessment 8	What is the due date of the earliest invoice (most days past due) for One in a Million included?	8/2/2025

Assessment 9	What is the due date of the earliest invoice (most days past due) for Taste of Thai included?	7/25/2025
Assessment 10	How many detailed invoices does Thai Tap have?	18
Assessment 11	How many detailed invoices does Planet of the Grapes have?	17
Assessment 12	How many detailed invoices does Soup 'r Salad have?	12
Assessment 13	How many detailed invoices does Wok Delight have?	18
Assessment 14	How many detailed invoices does Pita Pan have?	18
Assessment 15	How many detailed invoices does Taste of Thai have?	15

Alt Lab 2-1 Analysis Questions

1. **Would you be more concerned about collection from customers with older invoices (most days past due) or those with more current invoices (less days past due)?**

   The older a bill is, the less likely it will be collected. Perhaps the customer doesn't remember receiving an invoice, or has a dispute with the items they received and have decided they will not pay the amount due. But in general, the older the invoice, the less likely they will be collected, which is why one method of assessing repayment of invoices is to age the receivables.

2. **What data could you collect and analyze to determine which invoices/receivables will be collected and which will not?**

   Possibilities include:
   - Age of invoices/receivables outstanding
   - Customer's financial ability to pay invoices (do they have cash?)
   - Is there a dispute regarding the item purchased? Arrived on time and in good condition?
   - Are customers paying bills to other suppliers on a timely basis?
   - Is customer continuing to do business with us?
   - Etc.

Lab 2-2 Excel Solution

1. Take a screenshot of your PivotTable, paste it into a word document named "Lab 2-2 Excel SS.doc", and label the screenshot Submission 1.

Lab 2-2 Excel Submission 1 Screenshot: Take a screenshot of your PivotTable, paste it into a word document named "Lab 2-2 Excel SS.doc", and label the screenshot Submission 1.

	A	B
1		
2		
3	**Customer Number**	**Sum of Gross Margin**
4	2047	357.7
5	2088	212.23
6	2072	139.01
7	2081	137.78
8	2100	135.47
9	2060	118.74
10	2064	115.33
11	2087	114.85
12	2046	114.29
13	2086	107.41
14	2024	104.78
15	2063	96.45
16	2031	81.81
17	2018	76.79
18	2051	69.83
19	2032	66.62
20	2021	64.64
21	2079	64
22	2099	58.56

(Source: Screengrab Microsoft Excel 365, Vern Richardson)

Lab 2-2 Excel Assessment Questions

	Questions 1-5	Answer
		Lab 2-2
Assessment 1	What was the sum of the gross margin for Customer 2099? (enter with two decimals)	$58.56
Assessment 2	What was the sum of the gross margin for Customer 2023? (enter with two decimals)	$8.41
Assessment 3	Which customer number had the highest gross margin?	2047
Assessment 4	Which customer number had the lowest gross margin?	2043
Assessment 5	Which customer number had a gross margin of $24.46?	2084

Lab 2-2 Excel Analysis Questions

1. **Why is it useful to identify the customer with the highest gross margin? Lowest gross margin?**

Customers with the highest gross margin show who has purchased the most product and who we have made the most profit on. They might be ones that like our products and be willing to purchase more products, thus bringing more profits to the firm. We may target them in future ads or provide them special deals to help the company make additional sales and profits.
The more we know about our customers, the more we are able to target them.

2. **Why is it useful to look at the gross margin rather than the final profit margin?**
The gross margin just subtracts the cost of goods sold, so any profits can be attributed to the sales price less the cost of goods sold. Profit margin includes deducting other expenses that may or may not be directly related to product sales. While both are useful, gross margin can tell us the excess of sales price of the product less the cost of goods sold (of the product).

Lab 2-2 Tableau Solution

1. Take a screenshot of your chart, paste it into a word document named "Lab 2-2 Tableau SS.doc", and label the screenshot Submission 1.

Lab 2-2 Tableau Submission 1 Screenshot: Take a screenshot of your chart, paste it into a word document named "Lab 2-2 Tableau SS.doc", and label the screenshot Submission 1.

(Source: Screengrab Tableau, Katie Terrell)

Lab 2-2 Tableau Assessment Questions

	Questions 1-5	Answer
		Lab 2-2
Assessment 1	What was the sum of the gross margin for Customer 2079? (enter with two decimals)	$64.00
Assessment 2	What was the sum of the gross margin for Customer 2072? (enter with two decimals)	$139.00
Assessment 3	Which customer number had the highest gross margin?	2047
Assessment 4	Which customer number had the lowest gross margin?	2043
Assessment 5	Which customer number had a gross margin of $56.39 (or $56.40 rounded)?	2044

Lab 2-2 Tableau Analysis Questions

1. **Explore some of the different ways to present this data in the "Show Me" tab. Explain one other way to visualize this data that would be useful and why.**
   Answers will vary. Bar charts by gross margin, a sorted chart from high gross margin to low gross margin, etc., may all be used to display the distribution of gross margin by customer.

2. **Identify one meaningful insight from this dataset to share with management and write it down in two sentences.**
   Answers will vary.

Lab 2-2 Power BI Solution

1. Take a screenshot of your chart, paste it into a word document named "Lab 2-2 Power BI SS.doc", and label the screenshot Submission 1.

Customer #	Gross Margin
2047	357.70
2088	212.23
2072	139.01
2081	137.78
2100	135.47
2060	118.74
2064	115.33
2087	114.85
2046	114.29
2086	107.41
2024	104.78
2063	96.45
2031	81.81
2018	76.79
2051	69.83
2032	66.62
2025	64.64
2079	64.00
2099	58.56
2044	56.39
2041	47.22
2067	44.94
2048	41.12
2074	38.18
2068	36.62
2001	34.89
2066	34.12
2091	30.11
2006	29.77

(Source: Screengrab Power BI, Ryan Teeter)

Lab 2-2 Power BI Assessment Questions

	Questions 1-5	Answer
		Lab 2-2
Assessment 1	What was the sum of the gross margin for Customer 2079? (enter with two decimals)	$64.00
Assessment 2	What was the sum of the gross margin for Customer 2072? (enter with two decimals)	$139.00
Assessment 3	Which customer number had the second highest gross margin?	2088

	Questions 1-5	Answer
Assessment 4	Which customer number had the second lowest gross margin?	2053
Assessment 5	Which customer number had a gross margin of $11.56 (or $11.60 rounded)?	2098

Lab 2-2 Power BI Analysis Questions

1. **Explore some of the different ways to present this data in the "Visualizations" pane. Explain one other way to visualize this data that would be useful and why.**

   Answers will vary. Bar charts by gross margin, a sorted chart from high gross margin to low gross margin, etc., may all be used to display the distribution of gross margin by customer.

2. **Identify one meaningful insight from this dataset to share with management and write it down in two sentences.**

   Answers will vary.

Alt Lab 2-2 Solution

Alt Lab 2-2 Submission 1 Screenshot: Take a screenshot of your chart, paste it into a word document named "Alt Lab 2-2 SS.doc", and label the screenshot Submission 1.

Customer #	Sum of Gross Margin
3013	1100.12
3083	784.97
3055	739.34
3036	704.03
3074	539.94
3029	534.31
3079	521.28
3073	520.5
3075	513.21
3009	508.1
3081	493.01
3094	489.9
3053	472.7
3096	459.2
3051	441.29
3076	422.53
3022	410.41
3044	405.88
3095	380.16
3049	352.43
3016	327.61

(Source: Screengrab Microsoft Excel 365, Vern Richardson)

Alt Lab 2-2 Assessment Questions

Assessment 1	What was the sum of the gross margin for Customer 3032? (enter with two decimals)	$33.59
Assessment 2	What was the sum of the gross margin for Customer 3061? (enter with two decimals)	$297.46
Assessment 3	What was the sum of the gross margin for Customer 3047? (enter with two decimals)	$159.67
Assessment 4	What was the sum of the gross margin for Customer 3098? (enter with two decimals)	$252.15

Assessment 5	What was the sum of the gross margin for Customer 3087? (enter with two decimals)	$264.52
Assessment 6	What was the sum of the gross margin for Customer 3037? (enter with two decimals)	$310.82
Assessment 7	What was the sum of the gross margin for Customer 3000? (enter with two decimals)	$76.00
Assessment 8	What was the sum of the gross margin for Customer 3014? (enter with two decimals)	$163.72
Assessment 9	Which customer number had the highest gross margin?	3013
Assessment 10	Which customer number had the lowest gross margin?	3008
Assessment 11	Which customer number had a gross margin of $18.95?	3054
Assessment 12	Which customer number had a gross margin of $96.17?	3091
Assessment 13	Which customer number had a gross margin of $108.18?	3082
Assessment 14	Which customer number had a gross margin of $72.54?	3048
Assessment 15	Which customer number had a gross margin of $784.97?	3083

Alt Lab 2-2 Analysis Questions

1. **What are the reasons a company should target low margin customers?**

   Customers with the lowest gross margin might have only tried our product once and not really like it. But it is possible, they might just need a little enticement and might be receptive to special deals we could provide them.

   The more we know about our customers, the more we are able to target them.

2. **Why would looking at the gross margin percentage [(sales less gross margin)/sales] by customer be helpful in addition to total gross margin?**

   Gross margin percentage will tell us how much of each dollar of sales we were able to keep as profits. Knowing the gross margin percentage by customer might be a complementary means of understanding our customers and knowing which ones make us the most money.

Lab 2-3 Excel Solution

1. Take a screenshot of the bins for your histogram, paste it into a word document named "Lab 2-3 Excel SS.doc", label the screenshot Submission 1.

2. Take a screenshot of your detailed listing of fruit products sold from the 0.4 to 0.425 gross margin percentage range, paste it into a word document named "Lab 2-3 Excel SS.doc", label the screenshot Submission 2.

Lab 2-3 Excel Submission 1 Screenshot: Take a screenshot of the bins for your histogram, paste it into a word document named "Lab 2-3 Excel SS.doc", label the screenshot Submission 1.

	A	B
1	*Bins*	*Frequency*
2	0	0
3	0.35	13
4	0.375	21
5	0.4	24
6	0.425	23
7	More	0

(Source: Screengrab Microsoft Excel 365, Vern Richardson)

Lab 2-3 Excel Submission 2 Screenshot: Take a screenshot of your detailed listing of fruit products sold from the 0.4 to 0.425 gross margin percentage range, paste it into a word document named "Lab 2-3 Excel SS.doc", label the screenshot Submission 2.

SKU	Description	Sales Price per Pound	Cost per pound	Gross Margin	Gross Margin Percentage
FRT-SAR	Salal berry	1.12	0.66	0.46	0.411
FRT-REN	Redcurrant	1.42	0.85	0.57	0.401
FRT-AVD	Avocado	1	0.59	0.41	0.410
FRT-PUE	Purple mangos	1.01	0.59	0.42	0.416
FRT-BIT	Bilberty	2	1.17	0.83	0.415
FRT-PLT	Plumcot (or Plu	2.1	1.24	0.86	0.410
FRT-BLN	Blackcurrent	2	1.18	0.82	0.410
FRT-PIL	Pineapple	0.77	0.46	0.31	0.403
FRT-PLM	PlumPrune (dr	1.31	0.77	0.54	0.412
FRT-CUN	Currant	1.75	1.04	0.71	0.406
FRT-PEA	Pear	1.83	1.07	0.76	0.415
FRT-PAY	Papaya	1.06	0.63	0.43	0.406
FRT-CHI	Chico fruit	1.75	1.03	0.72	0.411
FRT-MII	Miracle fruit	2.05	1.2	0.85	0.415
FRT-LOA	Longan	1.85	1.1	0.75	0.405
FRT-LIM	Lime	0.96	0.57	0.39	0.406
FRT-CUE	Cucumber	1.82	1.09	0.73	0.401
FRT-KII	Kiwifruit	2.32	1.37	0.95	0.409
FRT-JAU	Jambul	1.95	1.13	0.82	0.421
FRT-JAI	Jackfruit	0.63	0.37	0.26	0.413
FRT-JAB	Jabuticaba	0.89	0.52	0.37	0.416
FRT-GUV	Guava	0.94	0.56	0.38	0.404
FRT-GRI	GrapeRaisin	1.25	0.74	0.51	0.408

(Source: Screengrab Microsoft Excel 365, Vern Richardson)

Lab 2-3 Excel Assessment Questions

Questions 1-5	Answer	Distractor 1	Distractor 2	Distractor 3
Which product has the highest gross margin percentage?	**Jambul**	Purple Mangos	Jabuticaba	Pear
What word do we use to describe the different groupings in a histogram?	**Bin**	Ranges	Clusters	Buckets
Which gross margin percentage bin does the Goji Berry SKU fit in?	0.35 - 0.375	0.325 - 0.35	0.40 - 0.425	0.375 - 0.40
Which gross margin percentage bin does the FRT-COU SKU fit in?	0.35 - 0.375	0.325 - 0.35	0.40 - 0.425	0.375 - 0.40
How many products (SKUs) have gross margin percentages in the 0.325 - 0.35 range?	13			

Lab 2-3 Excel Analysis Questions

1. **Why would Fruitopia consider not carrying SKUs with low gross margin percentages?**

   Answers will vary. Since Fruitopia makes less money per dollar sales of a fruit on these items, Fruitopia may wish to emphasize other products with a higher gross margin percentage.

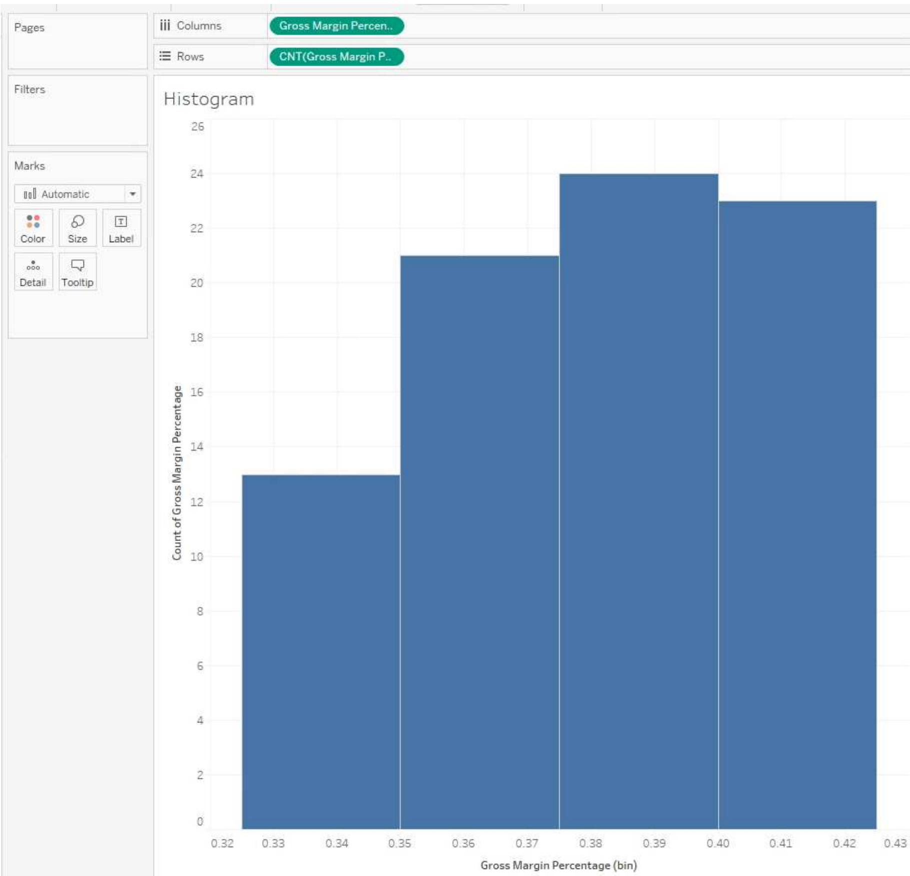
2. **What other considerations should Fruitopia consider when carrying SKUs than just the gross margin percentages realized?**

   Answers will vary. Some other considerations might include the rate at which product goes bad, shipping costs, gross margin percentages of other possible SKUs, etc.

Lab 2-3 Tableau Solution

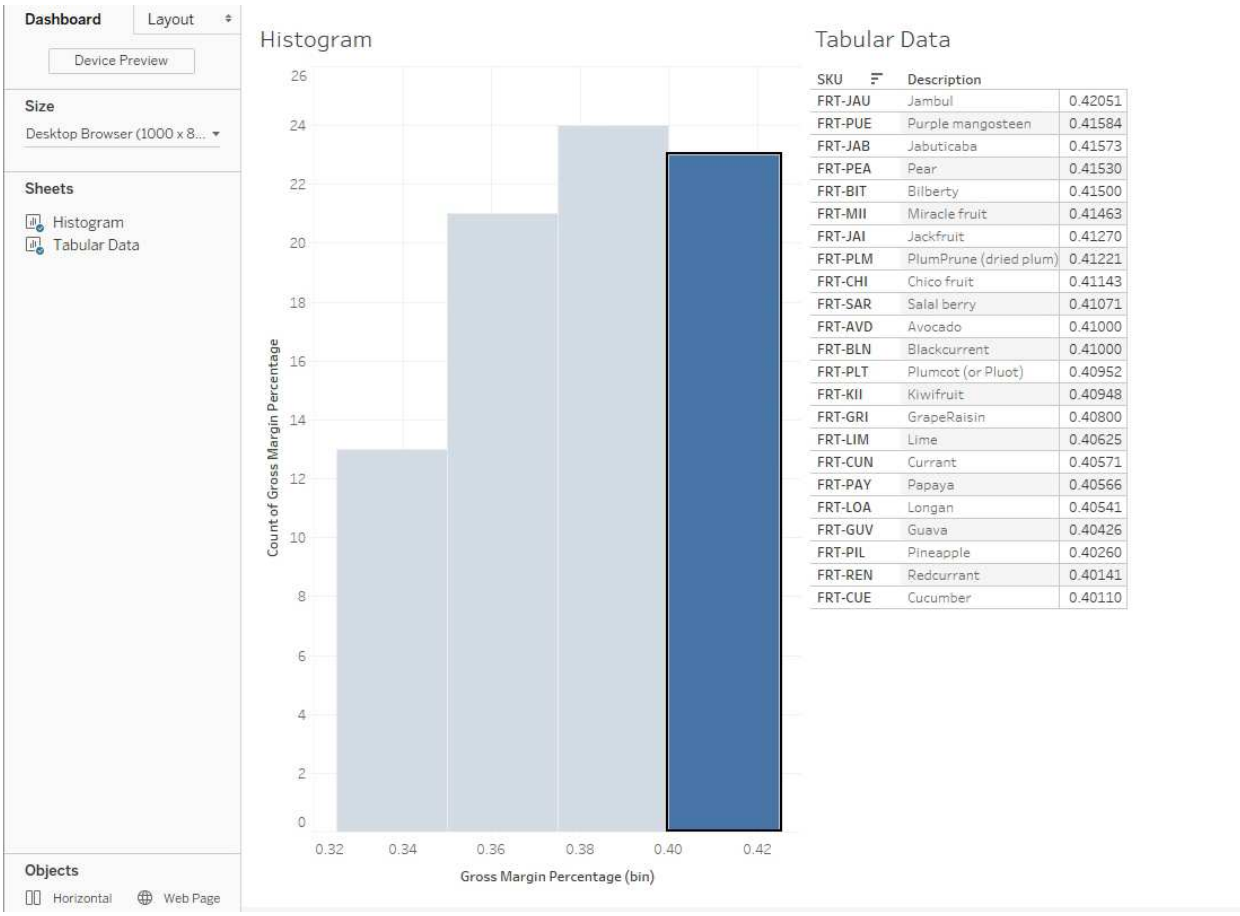
1. Take a screenshot of your histogram, paste it into a word document named "Lab 2-3 Tableau SS.doc", label the screenshot Submission 1.
2. Take a screenshot of your dashboard, paste it into a word document named "Lab 2-3 Tableau SS.doc", label the screenshot Submission 2.

Lab 2-3 Tableau Submission 1 Screenshot: Take a screenshot of your histogram, paste it into a word document named "Lab 2-3 Tableau SS.doc", label the screenshot Submission 1.



(Source: Screengrab Tableau, Katie Terrell)

Lab 2-3 Tableau Submission 2 Screenshot: Take a screenshot of your dashboard, paste it into a word document named "Lab 2-3 Tableau SS.doc", label the screenshot Submission 2.



(Source: Screengrab Tableau, Katie Terrell)

Lab 2-3 Tableau Assessment Questions

	Questions 1-5	Answer
Assessment 1	What is the size of each bin?	0.025
Assessment 2	Is this dataset negatively (left) or positively (right) skewed?	left
Assessment 3	Which gross margin percentage bin does the FRT-COU SKU fit in?	0.35 - 0.375
Assessment 4	How many products (SKUs) have gross margin percentages in the 0.375 - 0.400 range?	24

	Questions 1-5	Answer
Assessment 5	How many products (SKUs) have gross margin percentages in the 0.35 - 0.375 range?	21

Lab 2-3 Tableau Analysis Questions

1. **In two sentences, discuss why adjusting bin size to a smaller or larger interval impacts the way the data is interpreted.**

   Smaller intervals might be able to show more detail, but at the same time may be so small to not be able to show overall trends. There are advantages and disadvantages of using both smaller or larger bin sizes.

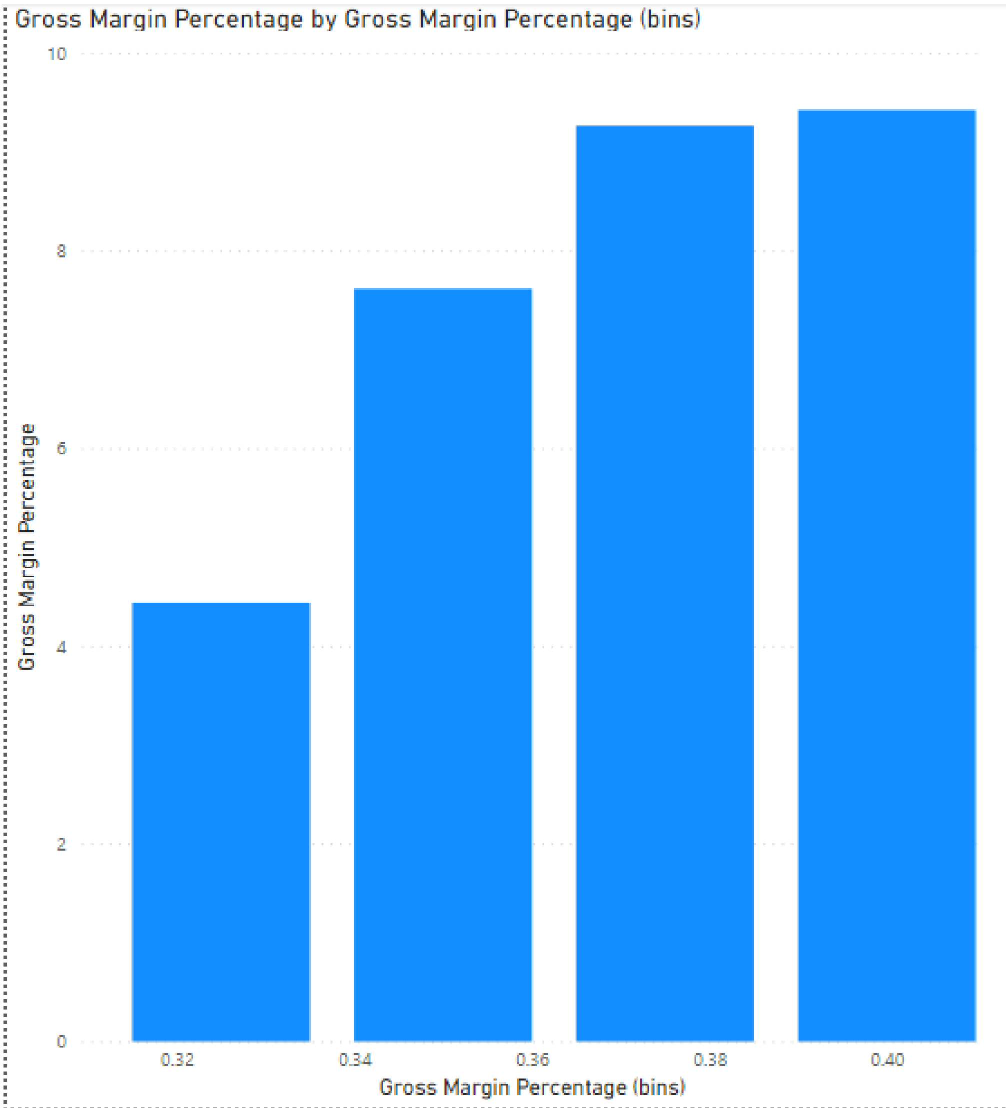
2. **Identify one meaningful insight from this dataset to share with management and write it down in two sentences.**

   Answers will vary depending on the insight drawn.

Lab 2-3 Power BI Solution

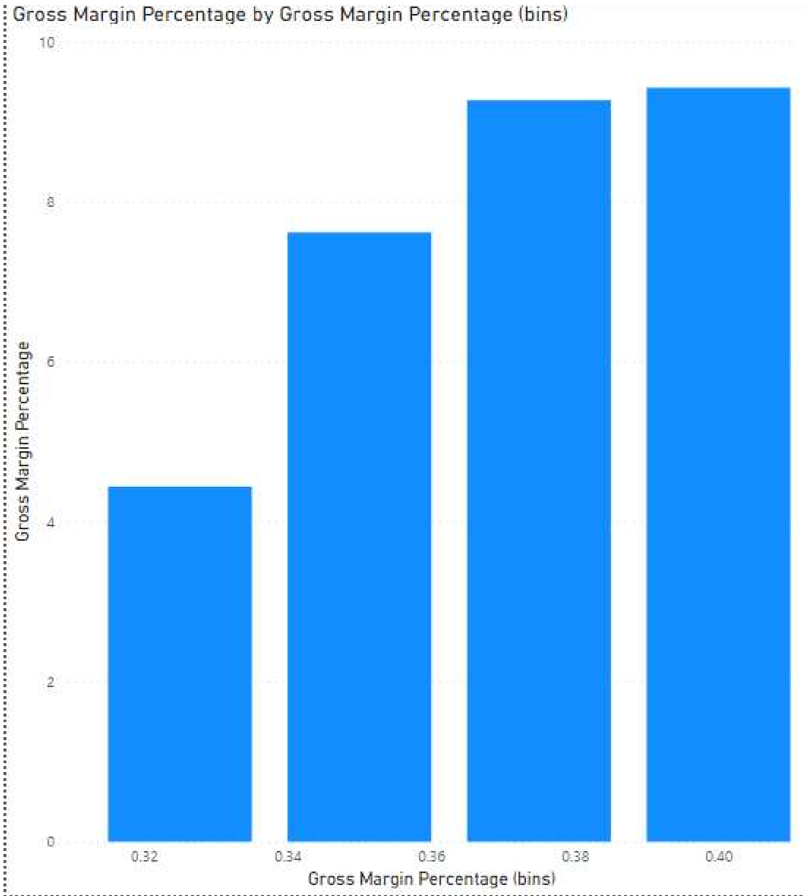
1. Take a screenshot of your histogram, paste it into a word document named "Lab 2-3 Power BI SS.doc", and label the screenshot Submission 1.
2. Take a screenshot of your dashboard, paste it into a word document named "Lab 2-3 Power BI SS.doc", and label the screenshot Submission 2.

Lab 2-3 Power BI Submission 1 Screenshot: Take a screenshot of your histogram, paste it into a word document named "Lab 2-3 Power BI SS.doc", and label the screenshot Submission 1.



(Source: Screengrab Power BI, Ryan Teeter)

Lab 2-3 Power BI Submission 2 Screenshot: Take a screenshot of your dashboard, paste it into a word document named "Lab 2-3 Power BI SS.doc", and label the screenshot Submission 2.



SKU	First Description	Gross Margin Percentage
FRT-APL	Apple	0.36
FRT-APO	Apricot	0.37
FRT-AVD	Avocado	0.41
FRT-BAN	Banana	0.38
FRT-BIT	Bilberty	0.42
FRT-BLN	Blackcurrent	0.41
FRT-BLR	Blackberry	0.74
FRT-BOR	Boysenberry	0.38
FRT-CHI	Chico fruit	0.41
FRT-CHR	Cherry	0.38
FRT-CHY	Cherimoya	0.37
FRT-CLR	Cloudberry	0.38
FRT-COU	Coconut	0.36
FRT-CRR	Cranberry	0.40
FRT-CUE	Cucumber	0.40
FRT-CUN	Currant	0.41
FRT-DAO	Damson	0.34
FRT-DAT	Date	0.35
FRT-DRI	Dragonfruit	0.40
FRT-DUA	Durian	0.39
FRT-ELR	Elderberry	0.37
FRT-FEO	Feijoa	0.34
FRT-FII	Fig	0.36
FRT-GOR	Goji berry	0.72
FRT-GRI	Grapefruit	0.74
FRT-GUV	Guava	0.40
FRT-HOR	Honeyberry	0.37
FRT-HUR	Huckleberry	0.34
FRT-JAB	Jabuticaba	0.42
FRT-JAI	Jackfruit	0.41
FRT-JAU	Jambul	0.42
FRT-JUB	Jujube	0.36
FRT-JUR	Juniper berry	0.34
FRT-KII	Kiwifruit	0.41
FRT-KUA	Kumquat	0.37
Total	**Apple**	**30.74**

(Source: Screengrab Power BI, Ryan Teeter)

Lab 2-3 Power BI Assessment Questions

	Questions 1-5	Answer
Assessment 1	Which SKU had the lowest gross margin percentage?	**Mulberry**
Assessment 2	Which SKU had the highest gross margin percentage?	**Jambul**
Assessment 3	Which size of bin was selected in this lab?	**0.025**
Assessment 4	_______ is the bin with the largest number of SKUs.	0.40 - 0.425
Assessment 5	How many products (SKUs) have gross margin percentages in the 0.325 - 0.35 range?	13

Lab 2-3 Power BI Analysis Questions

1. **In two sentences, discuss why adjusting bin size to a smaller or larger interval impacts the way the data is interpreted.**

   Smaller intervals might be able to show more detail, but at the same time may be so small to not be able to show overall trends. There are advantages and disadvantages of using both smaller or larger bin sizes.

2. **Which products would you recommend dropping from the inventory list? What are the possible reasons for continuing to carry products with low gross margin percentages?**

   The products (SKUs) that have the lowest gross margin percentages would certainly be candidates for removal from the inventory list. However, if the products are still creating a positive impact on profits, might it make sense to continue to carry? Also, some companies like to carry additional products to be a one-stop shop where all possible alternative products are available so the customer knows they “can get anything there”.

Alt Lab 2-3 Solution

Alt Lab 2-3 Submission Screenshot 1: Take a screenshot of your histogram, paste it into a word document named "Alt Lab 2-3 SS.doc", label the screenshot Submission 1.

Bins	*Frequency*
0.425	7
0.45	4
0.475	7
0.5	5
More	0

Alt Lab 2-3 Submission Screenshot 1: Take a screenshot of your detailed listing of fruit products sold from the 0.475 to 0.50 gross margin percentage range, paste it into a word document named "Alt Lab 2-3 SS.doc", and label the screenshot Submission 2.

SKU	Description	Sales Price	Cost	Gross Margin	Gross Margin %
PED-T3A	T3PA Add-On	69.99	36.4	33.59	0.480
PED-T3P	FB T3PA-Pro 3-	129.99	66.14	63.85	0.491
FLI-HOX	T-Flight Hotas :	39.99	20.53	19.46	0.487
COM-FCS	T16000M FCS F	172.35	89.15	83.2	0.483
FLI-HO1	T-Flight Hotas (	59.99	30.17	29.82	0.497

(Source: Screengrab Microsoft Excel 365, Vern Richardson)

Alt Lab 2-3 Assessment Questions

Assessment 1	What is the gross margin (dollars) for SKU FLI-16H? (enter with two decimals)	$44.77
Assessment 2	What is the gross margin (dollars) for SKU WHL-T3P? (enter with two decimals)	$194.87
Assessment 3	What is the gross margin (dollars) for SKU PED-T80? (enter with two decimals)	$42.41
Assessment 4	What is the gross margin (dollars) for SKU FLI-STX? (enter with two decimals)	$18.95
Assessment 5	What is the gross margin percentage for SKU FLI-16H? (enter with three decimals)	0.460
Assessment 6	What is the gross margin percentage for SKU WHL-T3P? (enter with three decimals)	0.457
Assessment 7	What is the gross margin percentage for SKU PED-T80? (enter with three decimals)	0.446
Assessment 8	What is the gross margin percentage for SKU FLI-STX? (enter with three decimals)	0.474
Assessment 9	What was the highest gross margin percentage among all the SKU's? (enter with three decimals)	0.497
Assessment 10	How many total SKU's are there?	23
Assessment 11	How many SKU's are in the 0.4-0.425 bin?	7
Assessment 12	How many SKU's are in the 0.425-0.45 bin?	4
Assessment 13	How many SKU's are in the 0.45-0.475 bin?	7
Assessment 14	How many SKU's are in the 0.475-0.5 bin?	5
Assessment 15	How many SKU's are in the 0.5-0.525 bin?	0

Alt Lab 2-3 Analysis Questions

1. **What are the reasons a company should target high gross margin percentage SKUs?**

High gross margin percentages represent areas that are very profitable for the company. They are items that the company may want to promote more heavily to the customer.

2. **What are the reasons a company should target low gross margin percentage SKUs?**

Low gross margin percentages represent products that are less profitable for the company. They represent items that the company may want to promote less heavily to the customer.